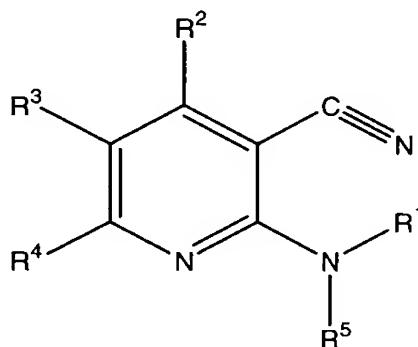


WHAT IS CLAIMED IS:

1. A method of inhibiting mitogen activated protein kinase-
activated protein kinase-2 in a subject in need of such inhibition, the
method comprising administering to the subject an aminocyanopyridine
5 MK-2 inhibiting compound, or a pharmaceutically acceptable salt thereof,
the compound having the structure:

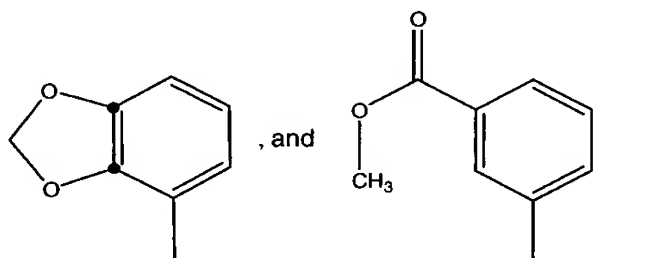


wherein:

- R¹ is selected from the group consisting of -H, C₁-C₆ alkyl, C₂-C₆
10 alkenyl, C₂-C₆ alkynyl, carboxy C₁-C₄ alkyl, aryl C₁-C₄ alkyl, amino, amino
C₁-C₄ alkyl, C₁-C₄ alkoxy, C₁-C₄ alkylamino, C₁-C₄ alkyl, di-(C₁-C₄
alkyl)amino C₁-C₄ alkyl, C₁-C₄ alkyl-C₁-C₄ alkyl, hydroxy C₁-C₄ alkyl, and
aryl C₁-C₄ alkylcarbonyl;

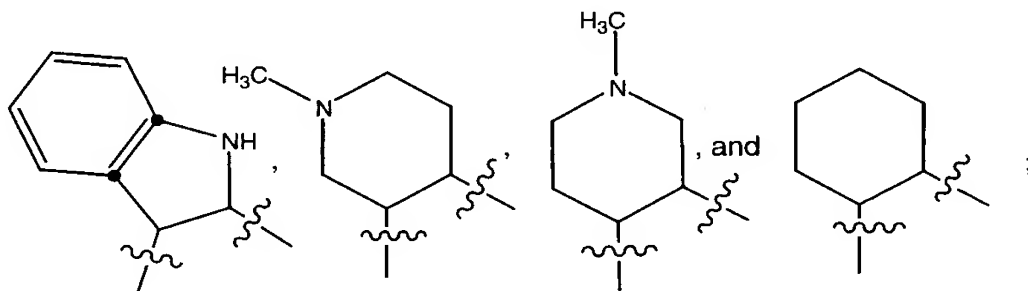
- R² is selected from the group consisting of -H, C₁-C₆ alkyl, C₂-C₆
15 alkenyl, C₂-C₆ alkynyl, amino, amino C₁-C₄ alkyl, C₁-C₄ alkylamino, aryl,
heteroaryl, heterocyclyl, carboxy, carboxy C₁-C₄ alkyl, C₁-C₄ alkoxy,
hydroxy, hydroxy C₁-C₄ alkyl, hydroxy C₁-C₄ alkylamino, hydroxy C₁-C₄
alkoxy, C₁-C₄ alkoxy C₁-C₄ alkyl, C₁-C₄ alkoxy C₁-C₄ alkylamino, amino C₁-
20 C₄ alkylamino, aryl C₁-C₄ alkyl, C₁-C₄ alkylamino C₁-C₄ alkyl, di C₁-C₄
alkylamino C₁-C₄ alkyl, C₁-C₄ alkyl C₁-C₄ alkyl, carboxy C₁-C₄ alkyl, aryl
C₁-C₄ alkylcarbonyl, phthalamino C₁-C₄ alkyl, halo, carbamyl, C₁-C₄
alkylthio, C₁-C₄ alkoxyarylamino, C₁-C₁₀ mono- and bicyclic cycloalkyl,
wherein aryl, heteroaryl, heterocyclyl, mono- and bicyclic cycloalkyl can be
optionally substituted with one or more of the groups selected from

halogen, hydroxy, C₁-C₄ alkoxy, aryloxy, C₂-C₄ alkenyloxy, C₂-C₄
alkynyloxy, C₁-C₄ alkyl, carboxy, carbamyl, C₁-C₄ alkoxycarbonyl, C₁-C₄
alkoxycarbonyl C₁-C₄ alkoxy, carboxy C₁-C₄ alkoxy amino, C₁-C₄
alkylamino, di-C₁-C₄ alkylamino, *N*-C₁-C₄ alkyl-*N*-cyano C₁-C₄ alkylamino,
5 nitro, C₁-C₄ alkylcarbonylamino, cyano, halo C₁-C₄ alkyl, di-halo C₁-C₄
alkyl, tri-halo C₁-C₄ alkyl, hydroxy C₁-C₄ alkoxy, halo C₁-C₄ alkoxy, tri-halo
C₁-C₄ alkoxy,



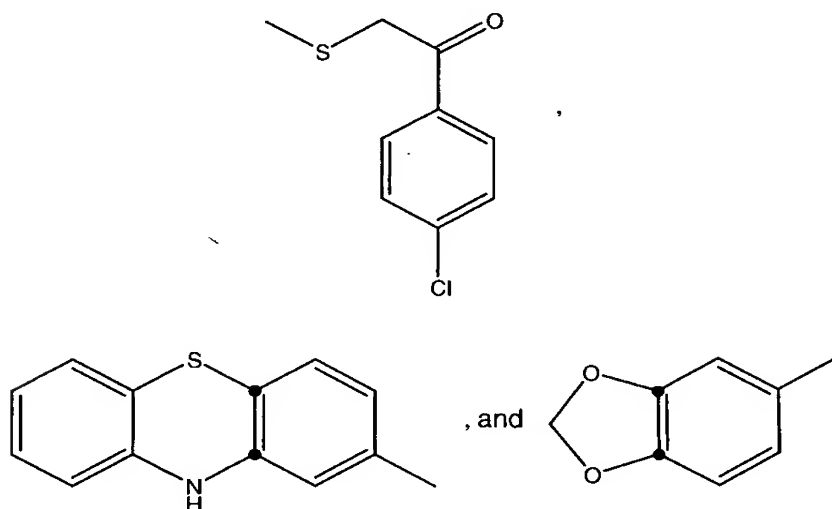
10 R³ is selected from the group consisting of -H, C₁-C₆ alkyl, C₂-C₆
alkenyl, C₂-C₆ alkynyl, cyano, amino C₁-C₄ alkyl, amino, aryl, wherein the
aryl group optionally can be substituted with one or more group selected
from halogen, hydroxy, C₁-C₄ alkoxy, C₁-C₄ alkyl, carboxy, C₁-C₄
alkoxycarbonyl, carboxy C₁-C₄ alkoxy, amino, di- C₁-C₄ alkylamino, *N*-C₁-
15 C₄ alkyl-*N*-cyano C₁-C₄ alkylamino, nitro, C₁-C₄ alkylcarbonylamino, cyano,
halo C₁-C₄ alkyl, di-halo C₁-C₄ alkyl, tri-halo C₁-C₄ alkyl, halo C₁-C₄ alkoxy,
di-halo C₁-C₄ alkoxy, tri-halo C₁-C₄ alkoxy, and

where the R² and R³ groups are such that they optionally join to
form a ring system selected from:

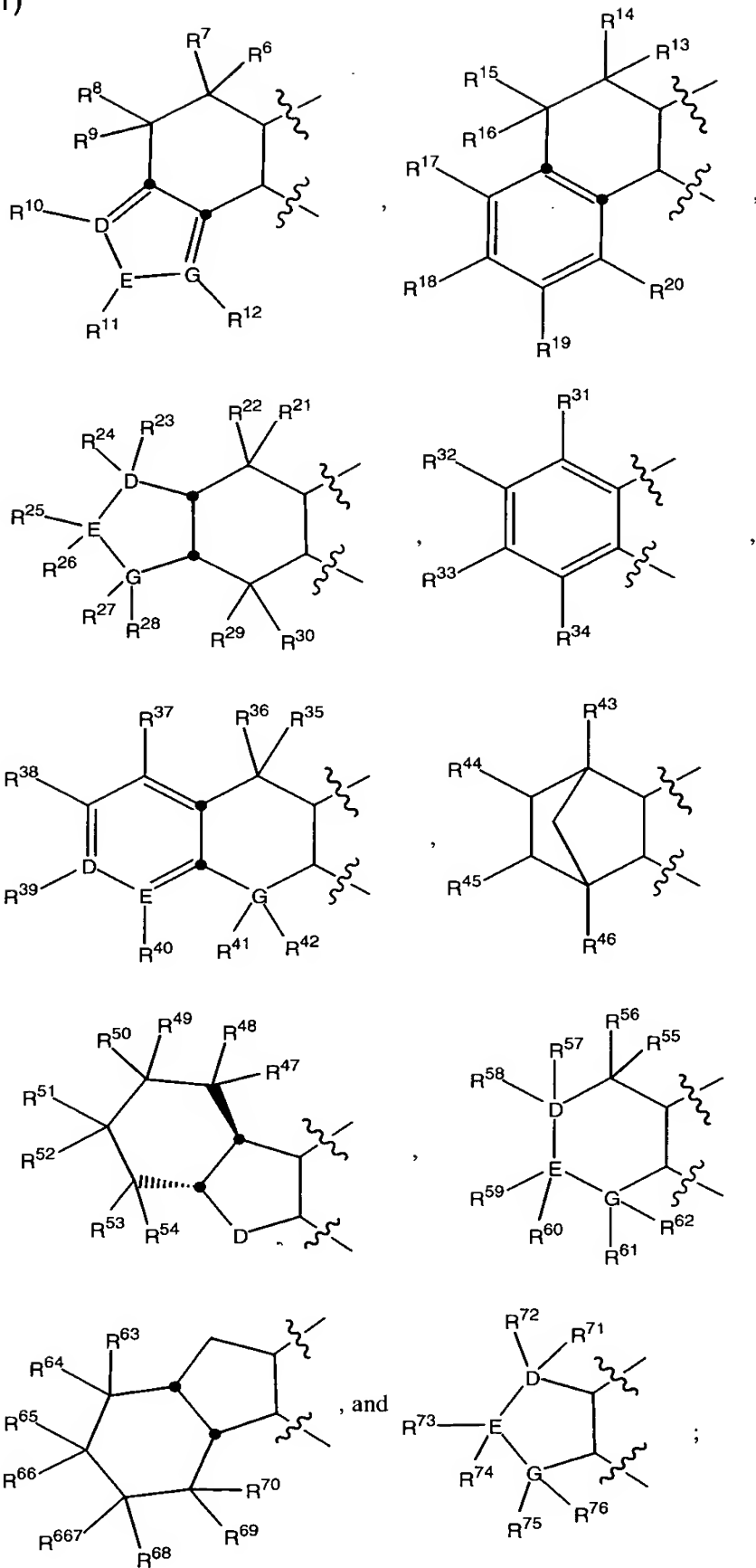


20

R^4 is selected from the group consisting of -H, C_1 - C_6 alkyl, C_2 - C_6 alkenyl, C_2 - C_6 alkynyl, hydroxy, C_1 - C_4 alkylthio, C_1 - C_4 alkoxy, C_1 - C_4 alkoxycarbonyl, mercapto, *N*-imidazolylphenyl, , C_1 - C_4 isoalkyl, aminofluorobenzhydryl, aryl and heteroaryl, wherein the aryl and heteroaryl groups optionally can be substituted with one or more groups selected from halogen, hydroxy, C_1 - C_4 alkoxy, C_1 - C_4 alkyl, C_1 - C_4 alkylthio, C_1 - C_4 alkylsulfonyl, C_1 - C_4 alkylsulfinyl, carboxy, carbamyl, C_1 - C_4 alkoxycarbonyl, carboxy C_1 - C_4 alkyl, carboxy C_1 - C_4 alkoxy, amino, di- C_1 - C_4 alkylamino, *N*- C_1 - C_4 alkyl-*N*-cyano C_1 - C_4 alkylamino, nitro, C_1 - C_4 alkylcarbonylamino, cyano, halo C_1 - C_4 alkyl, di-halo C_1 - C_4 alkyl, tri-halo C_1 - C_4 alkyl, halo C_1 - C_4 alkoxy, di-halo C_1 - C_4 alkoxy, tri-halo C_1 - C_4 alkoxy



wherein the R^3 and R^4 groups are such that they optionally join to form a ring system selected from:



D, E and G are each independently selected from carbon, oxygen, sulfur, and nitrogen;

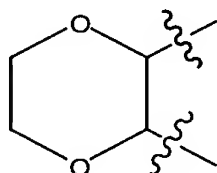
R⁵ is selected from the group consisting of -H, and C₁-C₅ alkyl; and

wherein the R¹ and R⁵ groups optionally join to form a piperidyl ring

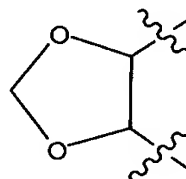
or an oxaziny ring;

R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R²¹, R²², R²³, R²⁴, R²⁵, R²⁶, R²⁷, R²⁸, R²⁹, R³⁰, R³¹, R³², R³³, R³⁴, R³⁵, R³⁶, R³⁷, R³⁸, R³⁹, R⁴⁰, R⁴¹, R⁴², R⁴³, R⁴⁴, R⁴⁵, R⁴⁶, R⁴⁷, R⁴⁸, R⁴⁹, R⁵⁰, R⁵¹, R⁵², R⁵³, R⁵⁴, R⁵⁵, R⁵⁶, R⁵⁷, R⁵⁸, R⁵⁹, R⁶⁰, R⁶¹, R⁶², R⁶³, R⁶⁴, R⁶⁵, R⁶⁶, R⁶⁷, R⁶⁸, R⁶⁹, R⁷⁰, R⁷¹, R⁷², R⁷³, R⁷⁴, R⁷⁵, and R⁷⁶ are each optionally present and are each independently selected from the group consisting of -H, C₁-C₄ alkyl, C₂-C₄ alkenyl, C₂-C₄ alkynyl, C₁-C₄ isoalkyl, amino, nitro, hydroxy, C₁-C₄ alkoxy, C₁-C₄ alkenoxy, oxo, carboxy, halo, halo C₁-C₄ alkyl, dihalo C₁-C₄ alkyl, trihalo C₁-C₄ alkyl, cyano, cyano C₁-C₄ alkyl, dicyano C₁-C₄ alkyl, halophenyl, hydroxy C₁-C₄ alkoxy, C₁-C₄ alkoxy C₁-C₄ alkoxy, - (CH₂)-O-(C₆H₄)-O-(CH₃), carboxy C₁-C₄ alkoxy, C₁-C₄ alkylcarboxy C₁-C₄ alkoxy, C₁-C₄ alkoxyamino, C₁-C₄ alkylamino, di C₁-C₄ alkylamino, tri C₁-C₄ alkylamino, amino C₁-C₄ alkoxy, diamino C₁-C₄ alkoxy, C₁-C₄ alkylamino C₁-C₄ alkoxy, di C₁-C₄ alkylamino C₁-C₄ alkoxy, cyano C₁-C₄ alkoxy C₁-C₄ alkyl, -(CH₂)-O-(CF₂)-CHF₂, tetra C₁-C₄ alkoxy C₁-C₄ alkyl, phenyl, benzyl, benzoyl, aryl, *N*-morpholinyl, morpholinyl C₁-C₄ alkoxy, pyrrolidyl C₁-C₄ alkoxy, *N*-pyrrolidyl C₁-C₄ alkoxy, C₁-C₄ alkylcarboxy, carboxy C₁-C₄ alkyl - ethyl ester, pyridyl C₁-C₄ alkyl, pyridyl C₁-C₄ alkoxy, - COO-CH₂-CH₃; and

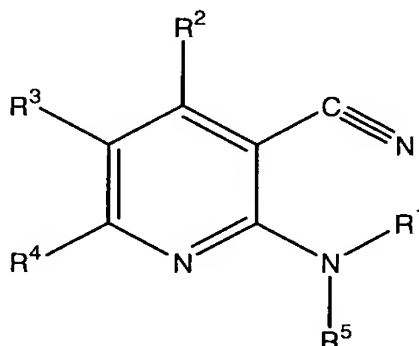
wherein R³⁸ and R³⁹ are such that they optionally join to form a ring system of the type selected from:



, and



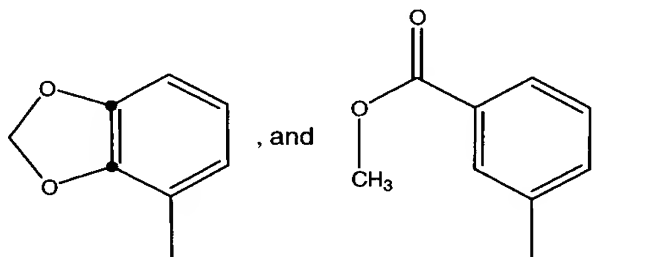
2. The method according to claim 1, wherein the aminocyanopyridine MK-2 inhibiting compound is one having the structure:



wherein:

5 R¹ is selected from the group consisting of -H, methyl, ethyl; propyl, butyl, -(CH₂)COOH, phenyl, pyridyl, dimethylaminoethyl, methoxyethyl, tetramethylaminoethyl, carboxymethyl, and phenylacetyl;

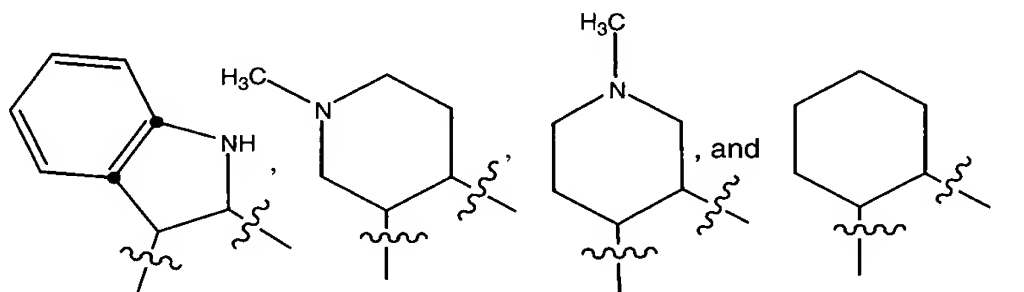
 R² is selected from the group consisting of -H, methyl, ethyl, propyl, butyl, amino, phenyl, methoxy, carboxy, carboxymethyl,
10 hydroxyethylamino, propylamino, ethylamino, methylamino, methoxyethyl, ethoxyethylamino, aminoethylamino, benzylamino, dimethylaminoethylamino, phthaloaminoethyl, fluorophenyl, difluorophenyl, chlorophenyl, bromophenyl, furyl, carbamylpyrryl, methyl-1,3-isodiazoyl, 1,3-isodiazoyl, 1,3,4-triazoyl, methoxyphenyl, -S(CH₃),
15 tetramethylaminoethyl, acetaminophenyl, methoxyphenylamino, carboxyphenyl, carboxy-3-isopyrryl, cyanophenyl, cyclopropyl, phenoxyphenyl, pyridyl, dihydroxybromophenyl, difluoromethoxyphenyl, trifluoromethylphenyl, trifluoromethylfluorophenyl, hydroxyphenyl, methylaminomethyl, methylaminoethyl, thiophyl, pyrryl, aminomethyl,



R^3 is selected from the group consisting of -H, methyl, ethyl, propyl, isopropyl, cyano, aminomethyl, phenyl, fluorophenyl, and amino;

wherein the R^2 and R^3 groups are such that they optionally join to form a ring system selected from:

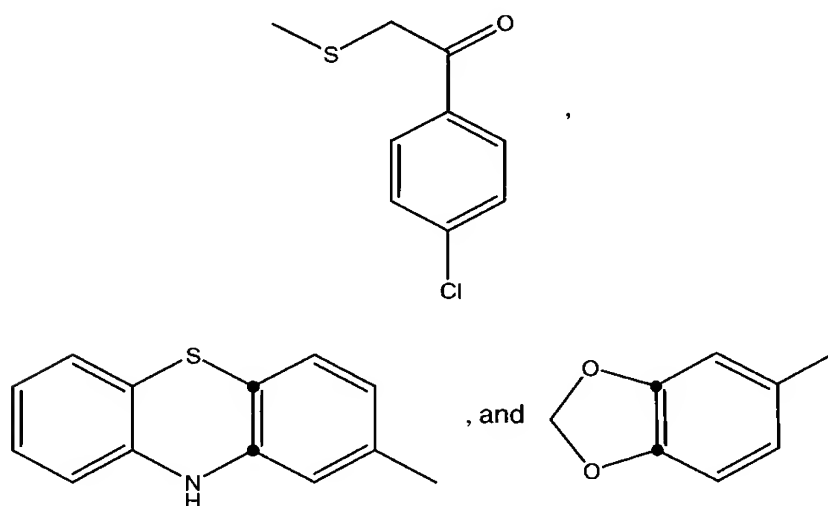
5



R^4 is selected from the group consisting of -H, methyl, ethyl, propyl, hydroxy, furyl, methylfuryl, methylimidazolyl, phenyl, hydroxyphenyl, carboxyphenyl, pyrazolyl, hydroxy, dihydroxyphenyl, methoxyphenyl, chlorophenyl, bromophenyl, fluorophenyl, dichlorophenyl, dihydroxyborophenyl, thienyl, pyrrol, *N*-methylpyrrol, pyridyl, methylthio, methylsulfonylphenyl, carboethoxyphenyl, methoxy, carbamylphenyl, mercapto, *N*-isoimidazolylphenyl, isopropyl, amino, hydroxynaphthyl, thiazoyl, carboxymethylphenyl, trifluoromethylphenyl, methylphenyl, cyanophenyl, dimethylphenyl, fluorobenzhydryl, methoxyfuryl, aminosulfonylphenyl,

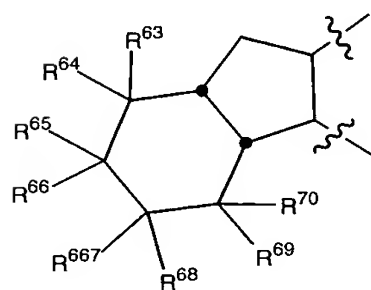
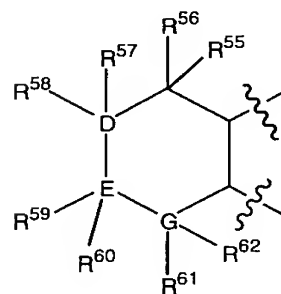
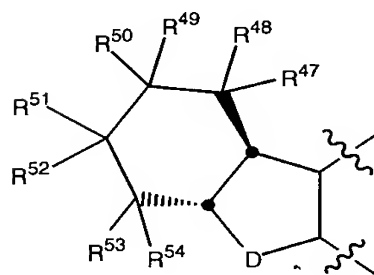
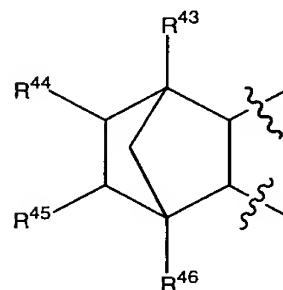
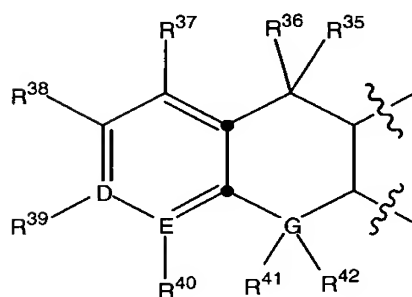
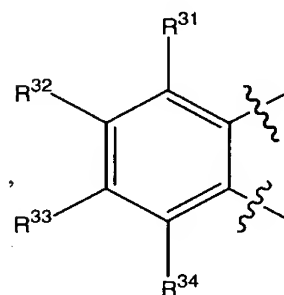
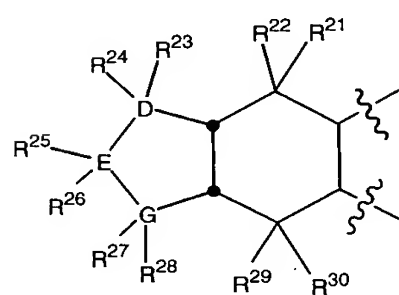
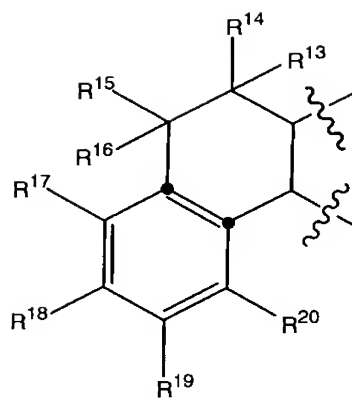
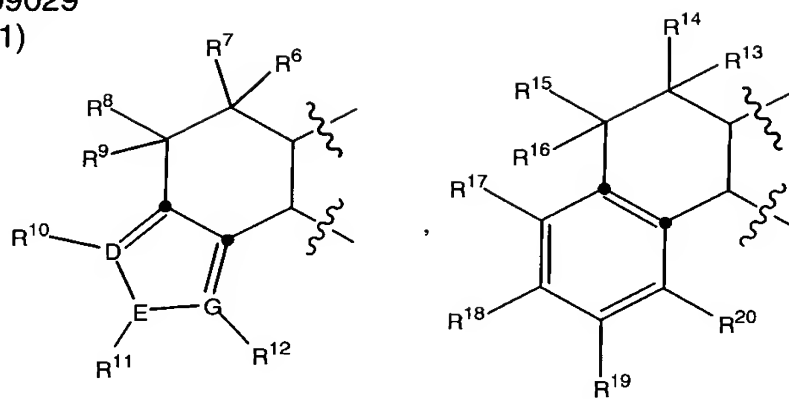
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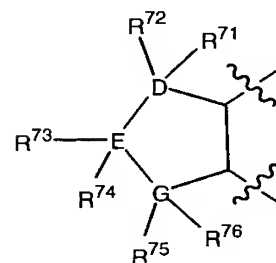


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wherein the R^3 and R^4 groups are such that they optionally join to form a ring system selected from:



, and



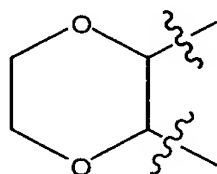
D, E and G are each independently selected from the group consisting of carbon, oxygen, sulfur, and nitrogen;

R⁵ is selected from the group consisting of -H, and C₁-C₅ alkyl; and

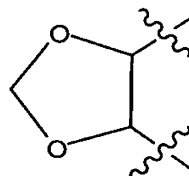
wherein the R¹ and R⁵ groups can join to form a piperidyl ring;

5 R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰,
R²¹, R²², R²³, R²⁴, R²⁵, R²⁶, R²⁷, R²⁸, R²⁹, R³⁰, R³¹, R³², R³³, R³⁴, R³⁵, R³⁶,
R³⁷, R³⁸, R³⁹, R⁴⁰, R⁴¹, R⁴², R⁴³, R⁴⁴, R⁴⁵, R⁴⁶, R⁴⁷, R⁴⁸, R⁴⁹, R⁵⁰, R⁵¹, R⁵²,
R⁵³, R⁵⁴, R⁵⁵, R⁵⁶, R⁵⁷, R⁵⁸, R⁵⁹, R⁶⁰, R⁶¹, R⁶², R⁶³, R⁶⁴, R⁶⁵, R⁶⁶, R⁶⁷, R⁶⁸,
R⁶⁹, R⁷⁰, R⁷¹, R⁷², R⁷³, R⁷⁴, R⁷⁵, and R⁷⁶ are each optionally present and
10 are each independently selected from the group consisting of - H, methyl,
ethyl, propyl, butyl, isobutyl, amino, nitro, hydroxy, methoxy, ethoxy,
propoxy, 2-propenoxy, oxo, carboxy, bromo, chloro, fluoro, trifluoromethyl,
chloromethyl, hydroxymethyl, dicyanomethyl, 2-fluorophenyl, 3-
fluorophenyl, hydroxyethoxy, ethoxyethoxy, -(CH₂)-O-(C₆H₄)-O-(CH₃),
15 carboxymethoxy, isopropylcarboxymethoxy, isobutylcarboxymethoxy,
methylamino, dimethylamino, aminoethoxy, diaminoethoxy,
dimethylaminoethoxy, cyanomethoxymethyl, 2-propenoxymethyl,
methoxymethyl, isopropoxymethyl, ethoxymethyl, -(CH₂)-O-(CF₂)-CHF₂,
isobutoxymethyl, benzoyl, phenyl, *N*-morpholinyl, morpholinylethoxy,
20 pyrrolidylethoxy, *N*-pyrrolidylethoxy, oxo, ethylcarboxy, carboxymethyl -
ethyl ester, pyridylmethyl, 4-pyridylmethoxy, 2-pyridylmethyl, and -COO-
CH₂-CH₃; and

wherein R³⁸ and R³⁹ are such that they can join to form a ring system of the type selected from:



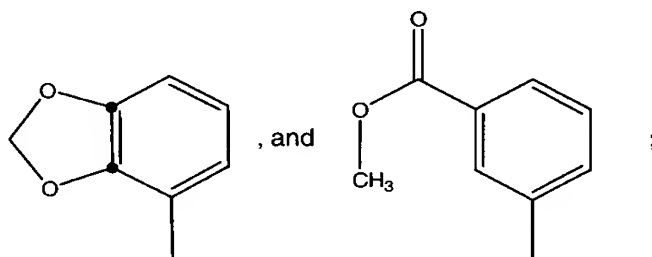
, and



25 3. The method according to claim 2, wherein the aminocyanopyridine MK-2 inhibiting compound is one wherein:

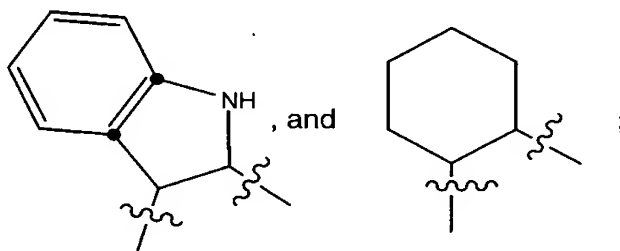
R^1 is selected from the group consisting of -H, methyl, ethyl, -
(CH₂)COOH, and phenyl;

R^2 is selected from the group consisting of -H, methyl, ethyl, amino,
phenyl, methoxy, carboxy, hydroxyethylamino, propylamino, ethylamino,
5 methylamino, methoxyethyl, ethoxyethylamino, aminoethylamino,
benzylamino, dimethylaminoethylamino, fluorophenyl, difluorophenyl,
chlorophenyl, bromophenyl, furyl, carbamylpyrryl, methyl-1,3-isodiazoyl,
1,3-isodiazoyl, 1,3,4-triazoyl, methoxyphenyl, -S(CH₃), acetaminophenyl,
methoxyphenylamino, carboxyphenyl, cyanophenyl, cyclopropyl,
10 phenoxyphenyl, pyridyl, dihydroxybromophenyl, difluoromethoxyphenyl,
trifluoromethylphenyl, trifluoromethylfluorophenyl, hydroxyphenyl,



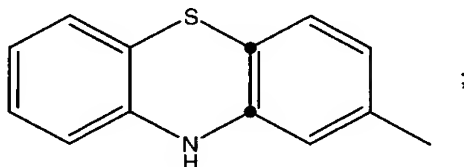
R^3 is selected from the group consisting of -H, methyl, ethyl, propyl,
isopropyl, cyano, and aminomethyl;

15 wherein the R^2 and R^3 groups are such that they optionally join to
form a ring system selected from:



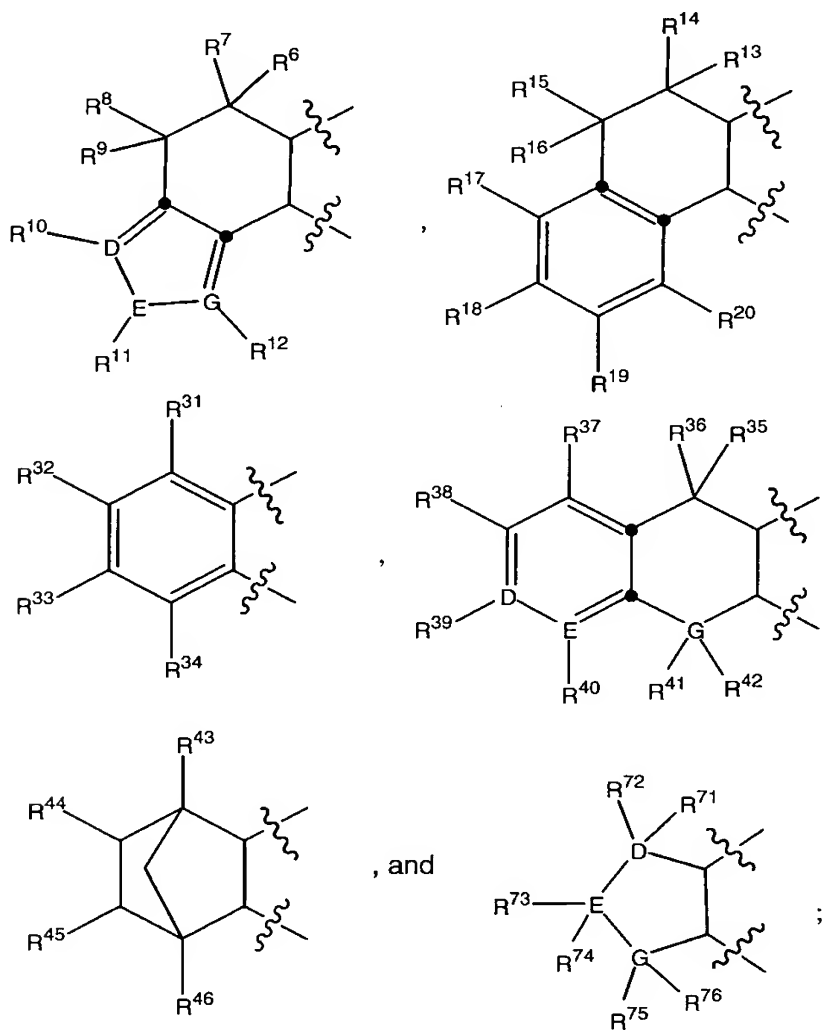
R^4 is selected from the group consisting of -H, methyl, ethyl, propyl,
hydroxy, furyl, indolyl, methylfuryl, methylimidazolyl, phenyl,
20 hydroxyphenyl, carboxyphenyl, pyrazolyl, hydroxy, dihydroxyphenyl,
methoxyphenyl, chlorophenyl, dichlorophenyl, dihydroxyborophenyl,

thienyl, pyreryl, *N*-methylpyreryl, pyridyl, methylthio, methylsulfonylphenyl, carboethoxyphenyl, methoxy, carbamylphenyl, *N*-isoimidazolylphenyl, amino, hydroxynaphthyl, thiazoyl, carboxymethylphenyl, aminosulfonylphenyl, and



5

wherein the R^3 and R^4 groups are such that they optionally join to form a ring system selected from:

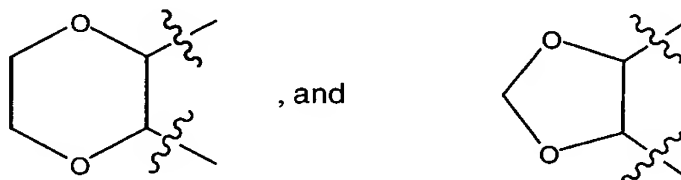


D, E and G are each independently selected from the group consisting of carbon, oxygen, sulfur, and nitrogen;

R⁵ is selected from the group consisting of -H, and C₁-C₅ alkyl;

5 R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰,
R³¹, R³², R³³, R³⁴, R³⁵, R³⁶, R³⁷, R³⁸, R³⁹, R⁴⁰, R⁴¹, R⁴², R⁴³, R⁴⁴, R⁴⁵, R⁴⁶,
R⁷¹, R⁷², R⁷³, R⁷⁴, R⁷⁵, and R⁷⁶ are each optionally present and are each
independently selected from the group consisting of - H, methyl, ethyl,
butyl, amino, nitro, hydroxy, methoxy, ethoxy, oxo, 2-propenoxy, carboxy,
10 bromo, chloro, fluoro, trifluoromethyl, chloromethyl, hydroxymethyl,
dicyanomethyl, hydroxyethoxy, ethoxyethoxy, -(CH₂)-O-(C₆H₄)-O-(CH₃),
carboxymethoxy, isopropylcarboxymethoxy, methylamino, dimethylamino,
aminoethoxy, diaminoethoxy, cyanomethoxymethyl, methoxymethyl,
isopropoxymethyl, ethoxymethyl, -(CH₂)-O-(CF₂)-CHF₂, isobutoxymethyl,
phenyl, morpholinylethoxy, pyrrolidylethoxy, *N*-pyrrolidylethoxy, and
15 pyridylmethyl, and

wherein R³⁸ and R³⁹ are such that they optionally join to form a ring system of the type selected from:

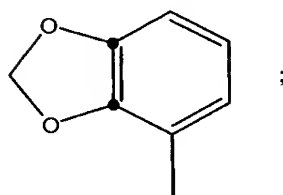


4. The method according to claim 2, wherein the
20 aminocyanopyridine MK-2 inhibiting compound is one wherein:

R¹ is selected from the group consisting of -H, methyl, and ethyl;

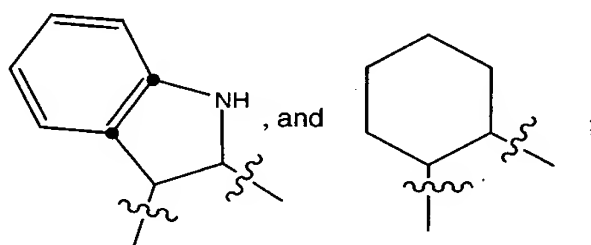
R² is selected from the group consisting of -H, methyl, amino,
phenyl, methoxy, hydroxyethylamino, propylamino, ethylamino,
methylamino, methoxyethyl, ethoxyethylamino, aminoethylamino,
25 benzylamino, dimethylaminoethylamino, fluorophenyl, difluorophenyl,
chlorophenyl, bromophenyl, furyl, carbamylpyrryl, methyl-1,3-isodiazoyl,
1,3-isodiazoyl, 1,3,4-triazoyl, methoxyphenyl, -S(CH₃), acetaminophenyl,
methoxyphenylamino, carboxyphenyl, cyanophenyl, cyclopropyl,

phenoxyphenyl, pyridyl, dihydroxybromophenyl, difluoromethoxyphenyl,
and



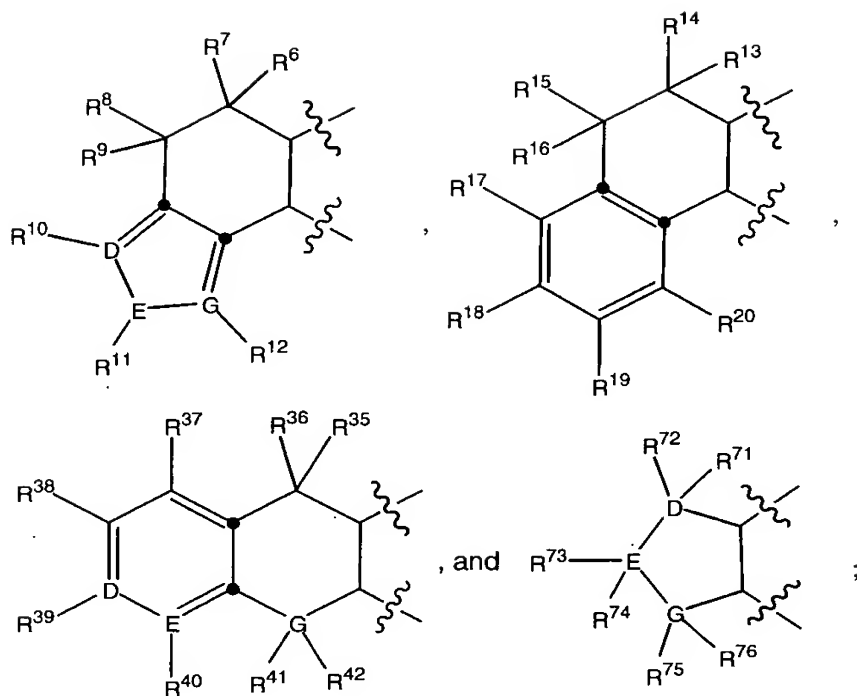
5 R^3 is selected from the group consisting of -H, methyl, ethyl, propyl, isopropyl, and cyano;

wherein the R^2 and R^3 groups are such that they optionally join to form a ring system selected from:



10 R^4 is selected from the group consisting of -H, methyl, ethyl, propyl, hydroxy, furyl, indolyl, methylfuryl, methylimidazolyl, phenyl, hydroxyphenyl, carboxyphenyl, pyrazolyl, hydroxy, dihydroxyphenyl, methoxyphenyl, chlorophenyl, dichlorophenyl, dihydroxyborophenyl, thienyl, pyrrol, *N*-methylpyrrol, pyridyl, methylthio, methylsulfonylphenyl, 15 carboethoxyphenyl, methoxy, carbamylphenyl, amino, and aminosulfonylphenyl;

wherein the R^3 and R^4 groups are such that they optionally join to form a ring system selected from:

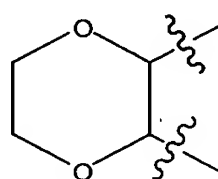


D, E and G are each independently selected from the group consisting of carbon, oxygen, sulfur, and nitrogen;

R⁵ is -H;

5 R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰, R³⁵, R³⁶, R³⁷, R³⁸, R³⁹, R⁴⁰, R⁴¹, R⁴², R⁷¹, R⁷², R⁷³, R⁷⁴, R⁷⁵, and R⁷⁶ are each optionally present and are each independently selected from the group consisting of - H, methyl, ethyl, butyl, amino, nitro, hydroxy, methoxy, ethoxy, oxo, 2-propenoxy, carboxy, bromo, fluoro, trifluoromethyl, chloromethyl, dicyanomethyl, hydroxyethoxy, ethoxyethoxy, -(CH₂)-O-(C₆H₄)-O-(CH₃), carboxymethoxy, isopropylcarboxymethoxy, methylamino, dimethylamino, aminoethoxy, diaminoethoxy, phenyl, morpholinylethoxy, pyrrolidylethoxy, N-pyrrolidylethoxy, and pyridylmethyl, and

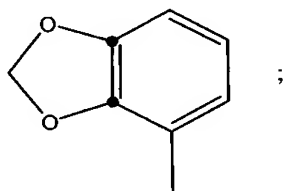
15 wherein R³⁸ and R³⁹ are such that they optionally join to form a ring system consisting of:



5. The method according to claim 2, wherein the aminocyanopyridine MK-2 inhibiting compound is one wherein:

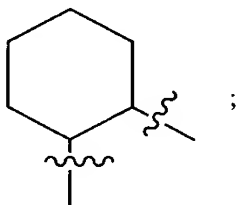
R^1 is selected from the group consisting of -H, methyl, and ethyl;

R^2 is selected from the group consisting of -H, methyl, amino,
5 phenyl, methoxy, hydroxyethylamino, propylamino, ethylamino,
methylamino, methoxyethyl, ethoxyethylamino, aminoethylamino,
benzylamino, dimethylaminoethylamino, fluorophenyl, difluorophenyl,
chlorophenyl, bromophenyl, furyl, carbamylpyrryl, methyl-1,3-isodiazoyl,
1,3-isodiazoyl, 1,3,4-triazoyl, methoxyphenyl, -S(CH₃), acetaminophenyl,
10 methoxyphenylamino, carboxyphenyl, and



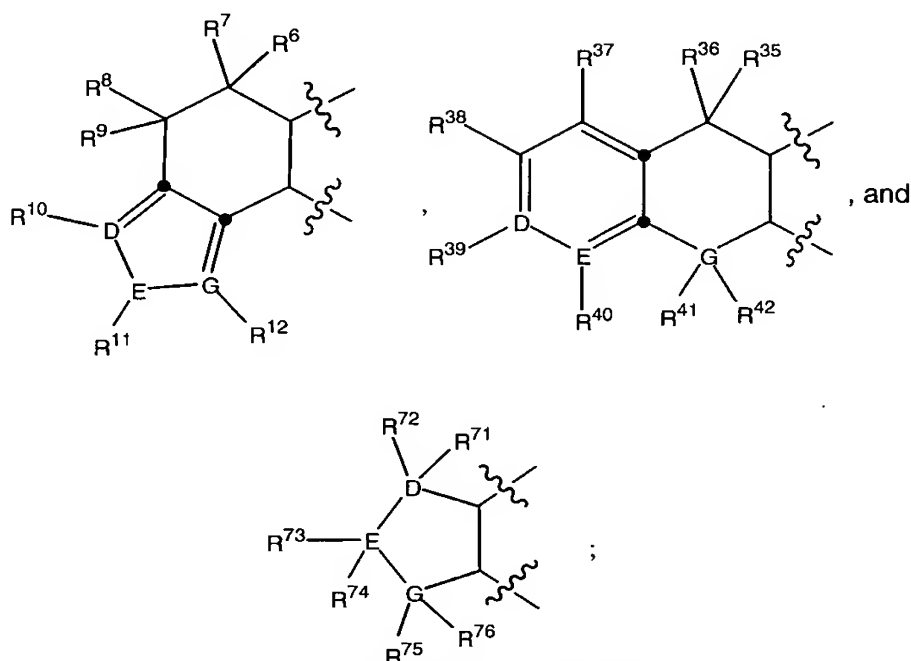
R^3 is selected from the group consisting of -H, methyl, ethyl, propyl, and isopropyl;

wherein the R^2 and R^3 groups are such that they optionally join to
15 form a ring system selected from:



R^4 is selected from the group consisting of -H, methyl, ethyl, propyl, furyl, indolyl, methylfuryl, methylimidazolyl, phenyl, hydroxyphenyl, carboxyphenyl, pyrazolyl, hydroxy, dihydroxyphenyl, methoxyphenyl,
20 chlorophenyl, dichlorophenyl, dihydroxyborophenyl, thienyl, pyrrol, *N*-methylpyrrol, pyridyl, methylthio, methylsulfonylphenyl, carboethoxyphenyl, and aminosulfonylphenyl;

wherein the R^3 and R^4 groups are such that they optionally join to form a ring system selected from:

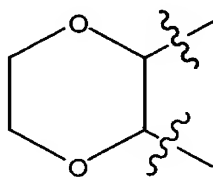


D, E and G are each independently selected from the group consisting of carbon, oxygen, sulfur, and nitrogen;

5 R^5 is -H;

R^6 , R^7 , R^8 , R^9 , R^{10} , R^{11} , R^{12} , R^{35} , R^{36} , R^{37} , R^{38} , R^{39} , R^{40} , R^{41} , R^{42} , R^{71} , R^{72} , R^{73} , R^{74} , R^{75} , and R^{76} are each optionally present and are each independently selected from the group consisting of - H, methyl, ethyl, butyl, amino, nitro, hydroxy, methoxy, ethoxy, oxo, 2-propenoxy, carboxy, bromo, fluoro, trifluoromethyl, chloromethyl, dicyanomethyl, hydroxyethoxy, ethoxyethoxy, carboxymethoxy, isopropylcarboxymethoxy, methylamino, dimethylamino, aminoethoxy, diaminoethoxy, morpholinylethoxy, pyrrolidylethoxy, *N*-pyrrolidylethoxy, and pyridylmethyl, and

15 wherein R^{38} and R^{39} are such that they optionally join to form a ring system consisting of:



6. The method according to claim 2, wherein the aminocyanopyridine MK-2 inhibiting compound is one wherein:

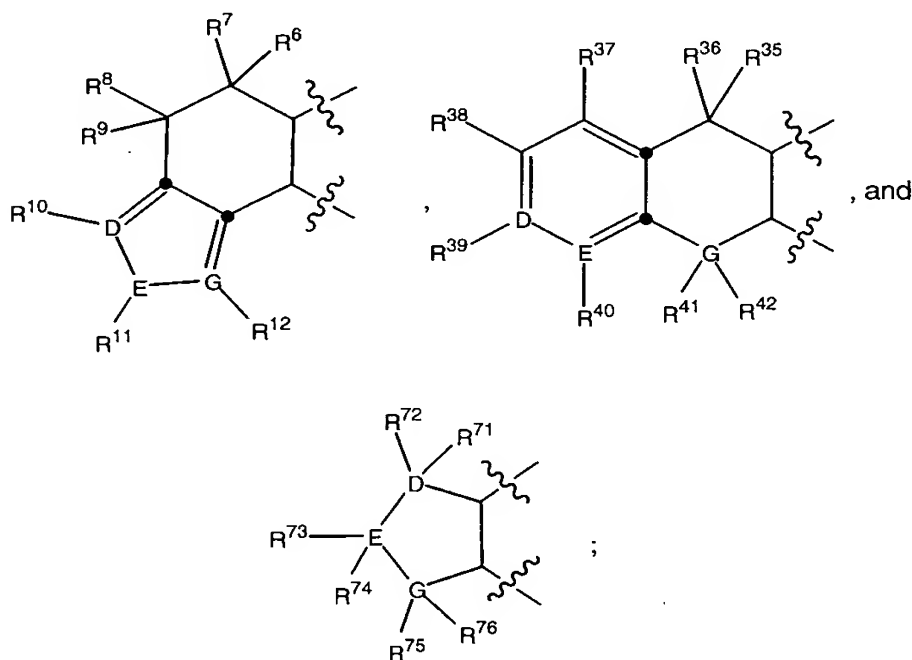
R^1 is -H;

5 R^2 is selected from the group consisting of amino, phenyl, fluorophenyl, difluorophenyl, furyl, carbamylpyrryl, methyl-1,3-isodiazoyl, 1,3-isodiazoyl, 1,3,4-triazoyl, methoxyphenyl, acetaminophenyl, methoxyphenylamino, and carboxyphenyl;

10 R^3 is selected from the group consisting of -H, methyl, ethyl, and propyl;

R^4 is selected from the group consisting of methyl, ethyl, propyl, furyl, phenyl, hydroxyphenyl, carboxyphenyl, pyrazolyl, hydroxy, dihydroxyphenyl, methoxyphenyl, chlorophenyl, dihydroxyborophenyl, and aminosulfonylphenyl;

15 wherein the R^3 and R^4 groups are such that they optionally join to form a ring system selected from:



- 8-amino-6-(2-furyl)-4,5-dihydro-1H-pyrazolo[4,3-h]quinoline-7-carbonitrile,
2-amino-4-(2-furyl)-8-hydroxy-5,6-dihydrobenzo[h]quinoline-3-carbonitrile,
2-amino-4-(2,6-difluorophenyl)-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
carbonitrile,
- 5 2-amino-6-(4-hydroxyphenyl)-4-(1H-imidazol-5-yl)nicotinonitrile,
2-amino-4-(2-fluorophenyl)-6-(2-furyl)nicotinonitrile, 2-amino-4-(2-
fluorophenyl)-6-(2-furyl)nicotinonitrile,
2-amino-4-(2-fluorophenyl)-5,6-dihydrobenzo[h]quinoline-3-carbonitrile,
4-[6-amino-5-cyano-4-(2-furyl)pyridin-2-yl]benzoic acid,
- 10 2-amino-6-(2-furyl)-4-(1H-imidazol-5-yl)nicotinonitrile,
2-amino-4-(2-furyl)-6-(1H-pyrazol-3-yl)nicotinonitrile,
2-amino-3-cyano-4-(4H-1,2,4-triazol-3-yl)-5,6-dihydrobenzo[h]quinoline-8-
carboxylic acid,
2-amino-6-(3-hydroxyphenyl)-4-(1H-imidazol-5-yl)nicotinonitrile,
- 15 2-amino-6-(2-furyl)-4-(1H-imidazol-4-yl)nicotinonitrile,
2-amino-4-(2,4-difluorophenyl)-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
carbonitrile,
4,6-diamino-2-(trifluoromethyl)-2,3-dihydrofuro[2,3-b]pyridine-5-
carbonitrile,
- 20 2-amino-4-(2-furyl)-6,8-dihydro-5H-pyrrolo[3,4-h]quinoline-3-carbonitrile,
4-[6-amino-5-cyano-4-(2-fluorophenyl)pyridin-2-yl]benzoic acid,
2-amino-4-(2-furyl)-5,6-dihydro-1,8-phenanthroline-3-carbonitrile,
2-amino-6-(3,4-dihydroxyphenyl)-4-(2-fluorophenyl)nicotinonitrile,
2-amino-4-(1-methyl-1H-imidazol-4-yl)-6-phenylnicotinonitrile,
- 25 2-amino-4-(2-furyl)-6-(1H-pyrazol-3-yl)nicotinonitrile,
4-[6-amino-5-cyano-4-(1H-imidazol-5-yl)pyridin-2-yl]benzoic acid,
2-amino-4-(3-fluorophenyl)-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
carbonitrile,
2-amino-6-(3,4-dihydroxyphenyl)-4-(2-fluorophenyl)nicotinonitrile,
- 30 *N*-{4-[6-amino-5-cyano-4-(2-furyl)pyridin-2-yl]phenyl}methanesulfonamide,
2-amino-4-(2-furyl)-6,7-dihydro-5H-pyrrolo[2,3-h]quinoline-3-carbonitrile,
2-amino-4-(1H-imidazol-5-yl)-6-phenylnicotinonitrile,

- 2-amino-4-(2-furyl)-5,6-dihydrobenzo[h]quinoline-3-carbonitrile,
2-amino-4-(1H-imidazol-5-yl)-6-(4-methoxyphenyl)nicotinonitrile,
2-amino-6-(3-chlorophenyl)-4-(1H-imidazol-5-yl)nicotinonitrile,
2-amino-4-(2-furyl)-6-(1H-pyrazol-4-yl)nicotinonitrile,
5 2-amino-4-(4-methoxyphenyl)-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
carbonitrile,
2-amino-4-(2,5-difluorophenyl)-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
carbonitrile,
2-amino-4-(4-fluorophenyl)-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
10 carbonitrile,
2-amino-4-(4H-1,2,4-triazol-3-yl)-5,6-dihydrobenzo[h]quinoline-3-
carbonitrile,
4,6-diamino-2-(chloromethyl)-2,3-dihydrofuro[2,3-b]pyridine-5-carbonitrile,
2-amino-4-(1H-imidazol-4-yl)-6-phenylnicotinonitrile,
15 4-[6-amino-5-cyano-4-(2-furyl)pyridin-2-yl]benzenesulfonamide,
4-[6-amino-5-cyano-4-(2-furyl)pyridin-2-yl]phenylboronic acid,
2-amino-6-(4-methoxyphenyl)-4-(4H-1,2,4-triazol-3-yl)nicotinonitrile,
2-amino-4-(2-fluorophenyl)-6-(3-furyl)nicotinonitrile,
2-amino-6-(2-furyl)-4-(methylthio)nicotinonitrile,
20 2-amino-4-(2-fluorophenyl)-6-(3-hydroxyphenyl)nicotinonitrile,
8-amino-6-(2-furyl)-4,5-dihydro-2H-pyrazolo[4,3-h]quinoline-7-carbonitrile,
2-amino-4-(2-bromophenyl)-6-(2-furyl)nicotinonitrile,
2-amino-4-(2-fluorophenyl)-6-(4-hydroxyphenyl)nicotinonitrile,
2-amino-4-phenyl-6-thien-2-ylnicotinonitrile,
25 2-amino-4-(3-methoxyphenyl)-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
carbonitrile,
2-amino-4-(2-furyl)-7-methyl-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
carbonitrile,
2-amino-4-(2-fluorophenyl)-6-(1H-pyrrol-2-yl)nicotinonitrile,
30 2-amino-4-(2-furyl)-5-methyl-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
carbonitrile,
2-amino-4-(2-furyl)-6-(1-methyl-1H-pyrrol-3-yl)nicotinonitrile,

- 3-amino-5,6,7,8-tetrahydroisoquinoline-4-carbonitrile,
N-[4-(2-amino-3-cyano-6,7-dihydro-5H-pyrazolo[3,4-*h*]quinolin-4-yl)phenyl]acetamide,
6-amino-4-[(4-methoxyphenyl)amino]-2-(trifluoromethyl)-2,3-
5 dihydrofuro[2,3-*b*]pyridine-5-carbonitrile,
4-[6-amino-5-cyano-4-(2-furyl)pyridin-2-yl]-*N*-(tert-butyl)benzenesulfonamide,
4,6-diamino-2-ethyl-2,3-dihydrofuro[2,3-*b*]pyridine-5-carbonitrile,
6-amino-4-(2-furyl)-2,4'-bipyridine-5-carbonitrile, 2,4-diamino-6-
10 (methylthio)nicotinonitrile,
3-(2-amino-3-cyano-6,7-dihydro-5H-pyrazolo[3,4-*h*]quinolin-4-yl)benzoic acid,
2-amino-6-(4-chlorophenyl)-4-(1H-imidazol-5-yl)nicotinonitrile,
2-amino-4-(1,3-benzodioxol-4-yl)-6,7-dihydro-5H-pyrazolo[3,4-*h*]quinoline-
15 3-carbonitrile,
4,6-diamino-2-methyl-2,3-dihydrofuro[2,3-*b*]pyridine-5-carbonitrile,
2-amino-4-(1H-imidazol-5-yl)-6-[4-(methylsulfonyl)phenyl]nicotinonitrile,
2,4-diaminoquinoline-3-carbonitrile,
2,8-diamino-4-(2-furyl)-5,6-dihydrobenzo[*h*]quinoline-3-carbonitrile,
20 2-amino-4,6-di(2-furyl)nicotinonitrile,
4,6-diamino-2-butyl-2,3-dihydrofuro[2,3-*b*]pyridine-5-carbonitrile,
ethyl 4-[6-amino-5-cyano-4-(1H-imidazol-5-yl)pyridin-2-yl]benzoate,
2,4-diamino-6-methoxynicotinonitrile,
2-amino-4-methylnicotinonitrile,
25 2-amino-4-(4-cyanophenyl)-6,7-dihydro-5H-pyrazolo[3,4-*h*]quinoline-3-carbonitrile,
2-amino-4-cyclopropyl-6-methylnicotinonitrile,
2-amino-4-(2-furyl)-6-(1-methyl-1H-pyrrol-2-yl)nicotinonitrile,
2-amino-4-(2-chlorophenyl)-6,7-dihydro-5H-pyrazolo[3,4-*h*]quinoline-3-
30 carbonitrile,
2-amino-6-(2-furyl)-4-(4-phenoxyphenyl)nicotinonitrile,

- 2-amino-4-pyridin-3-yl-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,
2-amino-6-[[2-(4-chlorophenyl)-2-oxoethyl]thio]-4-(2-furyl)pyridine-3,5-dicarbonitrile,
5 4-[2-amino-3-cyano-6-(2-furyl)pyridin-4-yl]phenylboronic acid,
2-amino-6-(3-chlorophenyl)-4-(1H-imidazol-4-yl)nicotinonitrile,
4-(6-amino-5-cyano-4-phenylpyridin-2-yl)-*N*-(tert-butyl)benzenesulfonamide,
2-amino-4-methoxynicotinonitrile,
10 4-[2-amino-3-cyano-6-(2-furyl)pyridin-4-yl]benzoic acid,
4,6-diamino-2-[(4-methoxyphenoxy)methyl]-2,3-dihydrofuro[2,3-b]pyridine-5-carbonitrile,
2-amino-4-(2-fluorophenyl)-6-(4-methoxyphenyl)nicotinonitrile,
4-[6-amino-5-cyano-4-(2-fluorophenyl)pyridin-2-yl]-*N*-(tert-butyl)benzenesulfonamide,
15 (2,4-diamino-3-cyano-5H-chromeno[2,3-b]pyridin-9-yl)oxy]acetic acid,
3-pyridinecarbonitrile,
2-amino-4-methyl-2-amino-6-(2-furyl)nicotinonitrile,
2-amino-4-(2-furyl)-6-(3-hydroxyphenyl)nicotinonitrile,
20 4-[6-amino-5-cyano-4-(2-furyl)pyridin-2-yl]benzamide,
2-amino-4-(2-furyl)-7-hydroxy-5,6-dihydrobenzo[h]quinoline-3-carbonitrile,
2-amino-4-(2-furyl)-6-(1H-indol-3-yl)nicotinonitrile,
2-amino-4-pyridin-4-yl-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,
25 2-amino-4-(3-fluorophenyl)-6-(4-hydroxyphenyl)nicotinonitrile,
2-amino-4-[2-(difluoromethoxy)phenyl]-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,
2-amino-4-(2-furyl)-6-thien-3-ylnicotinonitrile,
2-amino-4-(3-fluorophenyl)-6-(4-methoxyphenyl)nicotinonitrile,
30 2-[2-amino-3-cyano-6-(2-furyl)pyridin-4-yl]phenylboronic acid,
2,4-diamino-6-propylpyridine-3,5-dicarbonitrile,

- 4,6-diamino-2-[(prop-2-ynyloxy)methyl]-2,3-dihydrofuro[2,3-b]pyridine-5-carbonitrile,
4,6-diamino-2-(hydroxymethyl)-2,3-dihydrofuro[2,3-b]pyridine-5-carbonitrile,
5 2-amino-6-(2-furyl)-4-[4-(trifluoromethyl)phenyl]nicotinonitrile,
5-amino-7-methylthieno[3,2-b]pyridine-6-carbonitrile,
2-amino-4-(2-furyl)-5,5-dimethyl-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,
N-[3-cyano-4-(2-fluorophenyl)-6-(2-furyl)pyridin-2-yl]glycine,
10 2-[(allyloxy)methyl]-4,6-diamino-2,3-dihydrofuro[2,3-b]pyridine-5-carbonitrile,
2-amino-4-(2-furyl)-6-methyl-5,6-dihydrobenzo[h]quinoline-3-carbonitrile,
4,6-diamino-2-(methoxymethyl)-2,3-dihydrofuro[2,3-b]pyridine-5-carbonitrile,
15 2-amino-4-(2-furyl)-6-(1H-indol-3-yl)nicotinonitrile,
2-amino-4-(2-furyl)-6-[4-(1H-imidazol-1-yl)phenyl]nicotinonitrile,
2-amino-4-(2-furyl)-6-(4-hydroxyphenyl)nicotinonitrile,
2-amino-4-(2-furyl)-5,6,7,8-tetrahydro-5,8-methanoquinoline-3-carbonitrile,
4,6-diamino-2-(isopropoxymethyl)-2,3-dihydrofuro[2,3-b]pyridine-5-carbonitrile,
20 3-[6-amino-5-cyano-4-(2-furyl)pyridin-2-yl]phenylboronic acid,
4,6-diamino-2-(ethoxymethyl)-2,3-dihydrofuro[2,3-b]pyridine-5-carbonitrile,
2-amino-4-(4-bromophenyl)-6-(2-furyl)nicotinonitrile,
4,6-diamino-2-[(1,1,2,2-tetrafluoroethoxy)methyl]-2,3-dihydrofuro[2,3-b]pyridine-5-carbonitrile,
25 2-amino-4-[2-fluoro-4-(trifluoromethyl)phenyl]-6-(2-furyl)nicotinonitrile,
2-amino-4-(2-methoxyphenyl)-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,
2-amino-4-(2-fluorophenyl)-5-methyl-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,
30 3,6-diamino-4-ethyl-1H-pyrazolo[3,4-b]pyridine-5-carbonitrile,
6-amino-4-(2-furyl)-2,2'-bipyridine-5-carbonitrile,

- 2-amino-4-(2-furyl)-6-(8-hydroxy-1-naphthyl)nicotinonitrile,
4-(2-amino-3-cyano-6,7-dihydro-5H-pyrazolo[3,4-h]quinolin-4-yl)benzoic
acid,
2-amino-6-(3,4-dichlorophenyl)-4-(2-furyl)nicotinonitrile,
5 2-amino-4-(2-furyl)-6-(10H-phenothiazin-2-yl)nicotinonitrile,
sodium 2-amino-3-cyano-4-quinolinecarboxylate,
2-anilino-4-(2-fluorophenyl)-6-(2-furyl)nicotinonitrile,
2-amino-4-(3-fluorophenyl)-6-(2-furyl)nicotinonitrile,
2-amino-4-(4-fluorophenyl)-6-(2-furyl)nicotinonitrile,
10 4,6-diamino-2-(tert-butoxymethyl)-2,3-dihydrofuro[2,3-b]pyridine-5-
carbonitrile,
2-amino-4-(2-furyl)-6-(1,3-thiazol-2-yl)nicotinonitrile,
4-(2-fluorophenyl)-6-(2-furyl)-2-piperidin-1-ylnicotinonitrile,
2-amino-6-(4-chlorophenyl)-4-(2-furyl)nicotinonitrile,
15 2-amino-6-(4-hydroxyphenyl)-4-(2-methoxyphenyl)nicotinonitrile,
2-amino-6-(2-furyl)-4-(2-hydroxyphenyl)nicotinonitrile,
methyl 3-(2-amino-3-cyano-6,7-dihydro-5H-pyrazolo[3,4-h]quinolin-4-
yl)benzoate,
2-amino-4-(2-chlorophenyl)-6-(5-methyl-2-furyl)nicotinonitrile,
20 3,6-diamino-2-benzoylthieno[2,3-b]pyridine-5-carbonitrile,
methyl 4-[6-amino-5-cyano-4-(2-furyl)pyridin-2-yl]benzoate,
2-aminonicotinonitrile,
2-amino-4-(2-furyl)-8-[[2-(trimethylsilyl)ethoxy]methyl]-6,8-dihydro-5H-
pyrazolo[3,4-h]quinoline-3-carbonitrile,
25 3-amino-5H-pyrido[4,3-b]indole-4-carbonitrile,
2-(2-amino-3-cyano-6,7-dihydro-5H-pyrazolo[3,4-h]quinolin-4-yl)benzoic
acid,
2-amino-6-(4-methoxyphenyl)-4-phenylnicotinonitrile,
2-amino-4-(2-furyl)-5,6,7,8-tetrahydroquinoline-3-carbonitrile,
30 2-amino-4-(2-furyl)-6-isobutylnicotinonitrile,
2-amino-6-benzyl-4-(2-furyl)nicotinonitrile,
2-amino-4-(2-furyl)-6-methyl-5-phenylnicotinonitrile,

- 2-amino-4-(2-furyl)-6-[4-(trifluoromethoxy)phenyl]nicotinonitrile,
2-amino-4-(2-furyl)-6-propyl-5,6,7,8-tetrahydro-1,6-naphthyridine-3-
carbonitrile,
2-amino-4-(2-furyl)benzo[h]quinoline-3-carbonitrile,
5 2-amino-6-(4-methoxyphenyl)-4-thien-2-ylnicotinonitrile,
2-amino-4-(2-fluorophenyl)-6-tetrahydrofuran-2-ylnicotinonitrile,
ethyl 6-amino-5-cyano-4-(2-furyl)pyridine-2-carboxylate,
2-amino-4-(2-furyl)-9-methoxy-5,6-dihydrobenzo[h]quinoline-3-carbonitrile,
2-amino-4-(2-furyl)-8-methoxy-5,6-dihydrobenzo[h]quinoline-3-carbonitrile,
10 2-amino-4-(2-furyl)-8,9-dimethoxy-5,6-dihydrobenzo[h]quinoline-3-
carbonitrile,
2-amino-4-(2-furyl)-7-methoxy-5,6-dihydrobenzo[h]quinoline-3-carbonitrile,
2-amino-4-(2-furyl)-7,9-dimethyl-5,6-dihydrobenzo[h]quinoline-3-
carbonitrile,
15 ethyl 4-[6-amino-5-cyano-4-(2-furyl)pyridin-2-yl]benzoate,
2-amino-6-(3-bromophenyl)-4-(2-furyl)nicotinonitrile,
2-amino-4-(2-furyl)-6-[4-(trifluoromethyl)phenyl]nicotinonitrile,
2-amino-4-(2-furyl)-6-[3-(trifluoromethyl)phenyl]nicotinonitrile,
2-amino-4-(2-furyl)-6-[4-(methylsulfonyl)phenyl]nicotinonitrile,
20 4,6-diamino-2-(phenoxymethyl)-2,3-dihydrofuro[2,3-b]pyridine-5-
carbonitrile,
4,6-diamino-3-phenyl-2,3-dihydrofuro[2,3-b]pyridine-5-carbonitrile,
4,6-diamino-3-vinyl-2,3-dihydrofuro[2,3-b]pyridine-5-carbonitrile,
2-amino-4-(2-fluorophenyl)-5-methyl-6,8-dihydro-5H-pyrazolo[3,4-
25 h]quinoline-3-carbonitrile,
3-amino-1-methyl-5,6,7,8-tetrahydroisoquinoline-4-carbonitrile,
2-amino-4-(2-fluorophenyl)-5,5-dimethyl-6,8-dihydro-5H-pyrazolo[3,4-
h]quinoline-3-carbonitrile,
2-amino-4-(2-fluorophenyl)-6-(3-hydroxyphenyl)nicotinonitrile,
30 2-amino-4-[2-(difluoromethoxy)phenyl]-6,7-dihydro-5H-pyrazolo[3,4-
h]quinoline-3-carbonitrile,
2-(benzylamino)-4-(2-fluorophenyl)-6-(2-furyl)nicotinonitrile,

- 2-amino-4-(2-furyl)-6,7-dihydro-5H-benzo[6,7]cyclohepta[1,2-b]pyridine-3-carbonitrile,
2-amino-4-(2-furyl)-5H-indeno[1,2-b]pyridine-3-carbonitrile,
3-amino-1-methyl-5,6,7,8-tetrahydroisoquinoline-4-carbonitrile,
5 2-amino-4-(2-fluorophenyl)-6-(3-hydroxyphenyl)nicotinonitrile,
2-amino-4-(2-thienyl)-5,6,7,8-tetrahydro-3-quinolinecarbonitrile,
2-amino-4-(3-fluorophenyl)-5,6,7,8-tetrahydro-3-quinolinecarbonitrile,
2-(1-piperidinyl)-6-(2-thienyl)-4-(trifluoromethyl)nicotinonitrile,
2-(dimethylamino)-6-(2-thienyl)-4-(trifluoromethyl)nicotinonitrile,
10 3-Quinolinecarbonitrile,
2-amino-4-methyl- or 2-amino-4-methyl-3-quinolinecarbonitrile,
2-amino-4-(4-methoxyphenyl)-6-(2-thienyl)nicotinonitrile,
2-amino-6-cyclopropyl-4-(2-methoxyphenyl)nicotinonitrile,
2-amino-4-(2-fluorophenyl)-6-phenylnicotinonitrile,
15 (4bS,8aR)-2,4-diamino-4b,5,6,7,8,8a-hexahydro[1]benzofuro[2,3-b]pyridine-3-carbonitrile,
2-amino-4-(2-fluorophenyl)-5,5-dimethyl-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,
2-amino-4-(2-furyl)-5-phenyl-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,
20 3-amino-1,6-dimethyl-5,6,7,8-tetrahydro-2,6-naphthyridine-4-carbonitrile,
3-amino-1,7-dimethyl-5,6,7,8-tetrahydro-2,7-naphthyridine-4-carbonitrile,
2-amino-4-(2-fluorophenyl)-5-phenyl-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,
25 2-amino-4-(2-fluorophenyl)-5-phenyl-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,
4,6-diamino-2-(morpholin-4-ylmethyl)-2,3-dihydrofuro[2,3-b]pyridine-5-carbonitrile,
ethyl (4,6-diamino-5-cyano-2-oxo-2,3-dihydro-1H-pyrrolo[2,3-b]pyridin-1-yl)acetate,
30 2-amino-4-(2-methoxyphenyl)-6-(5-methyl-2-furyl)nicotinonitrile,
2-amino-6-methyl-4-(4-nitrophenyl)nicotinonitrile,

- 2-amino-4-(3,4-dimethoxyphenyl)-6-(5-methyl-2-furyl)nicotinonitrile,
2,4-diamino-6-[(4-methoxyphenyl)thio]nicotinonitrile,
4,6-diamino-2-(phenoxymethyl)-2,3-dihydrofuro[2,3-b]pyridine-5-
carbonitrile,
5 4,6-diamino-3-phenyl-2,3-dihydrofuro[2,3-b]pyridine-5-carbonitrile,
4,6-diamino-2-[(2-methylphenoxy)methyl]-2,3-dihydrofuro[2,3-b]pyridine-5-
carbonitrile,
2-amino-4-(2-furyl)-6-(4-methoxyphenyl)nicotinonitrile,
2-amino-4-(3-fluorophenyl)-5,6-dihydrobenzo[h]quinoline-3-carbonitrile,
10 2-amino-4-(4-methoxyphenyl)-6,7-dihydro-5H-cyclopenta[b]pyridine-3-
carbonitrile,
2-amino-9-ethyl-9H-pyrindo[2,3-b]indole-3-carbonitrile,
2-amino-6-isobutyl-4-(4-methylphenyl)nicotinonitrile,
1-(2-furyl)-3-[(3-hydroxypropyl)amino]-5,6,7,8-tetrahydroisoquinoline-4-
15 carbonitrile,
2-azepan-1-yl-6-(4-fluorophenyl)-4-phenylnicotinonitrile,
2-amino-6-tert-butyl-4-(4-methylphenyl)nicotinonitrile,
2-amino-4-(4-bromophenyl)-6-methylnicotinonitrile,
2-amino-4-thien-2-yl-5,6,7,8,9,10-hexahydrocycloocta[b]pyridine-3-
20 carbonitrile,
2-amino-4-(4-chlorophenyl)-6,7,8,9-tetrahydro-5H-cyclohepta[b]pyridine-3-
carbonitrile,
2-(allylamino)-5-amino-7-(4-bromophenyl)thieno[3,2-b]pyridine-3,6-
dicarbonitrile,
25 2-amino-4-pyridin-3-yl-5,6,7,8,9,10-hexahydrocycloocta[b]pyridine-3-
carbonitrile,
2-amino-4-(4-bromophenyl)-6-tert-butylnicotinonitrile,
1-(2-furyl)-3-morpholin-4-yl-5,6,7,8-tetrahydroisoquinoline-4-carbonitrile,
2-amino-4-(4-methylphenyl)-6,7-dihydro-5H-cyclopenta[b]pyridine-3-
30 carbonitrile,
2-amino-7,7-dimethyl-7,8-dihydro-5H-pyrano[4,3-b]pyridine-3-carbonitrile,
2-amino-6-isobutyl-4-(4-methoxyphenyl)nicotinonitrile,

- 4,6-diamino-2-oxo-1-phenyl-2,3-dihydro-1H-pyrrolo[2,3-b]pyridine-5-carbonitrile,
2-amino-4-(2-methoxyphenyl)-5,6-dimethylnicotinonitrile,
2-(dimethylamino)-4-(2-fluorophenyl)-6-(2-furyl)nicotinonitrile,
5 2-(dimethylamino)-4-(2-fluorophenyl)-6-(2-furyl)nicotinonitrile,
4-(2-fluorophenyl)-6-(2-furyl)-2-(methylamino)nicotinonitrile,
4-(2-fluorophenyl)-6-(2-furyl)-2-morpholin-4-ylnicotinonitrile,
tert-butyl *N*-[3-cyano-4-(2-fluorophenyl)-6-(2-furyl)pyridin-2-yl]glycinate,
2-(ethylamino)-4-(2-fluorophenyl)-6-(2-furyl)nicotinonitrile,
10 ethyl 4-[6-amino-5-cyano-4-(2-fluorophenyl)pyridin-2-yl]benzoate,
2-amino-6-(2-fluorophenyl)-4-(3-furyl)nicotinonitrile,
6-amino-4-(2-fluorophenyl)-2,2'-bipyridine-5-carbonitrile,
2-amino-4-(2-fluorophenyl)-6-thien-2-ylnicotinonitrile,
ethyl 6-amino-5-cyano-4-(2-fluorophenyl)pyridine-2-carboxylate,
15 2-amino-6-(2-furyl)-4-phenylnicotinonitrile,
ethyl 2-amino-3-cyano-4-(2-furyl)-5,6,7,8-tetrahydroquinoline-6-carboxylate,
2-amino-4-(2-furyl)-6-(4-hydroxyphenyl)-5-methylnicotinonitrile,
2-amino-4-(2-furyl)-6-(4-methoxyphenyl)-5-methylnicotinonitrile,
20 2-amino-6-(4-fluorophenyl)-4-(2-furyl)-5-methylnicotinonitrile,
2-amino-4-(2-furyl)-5,6-diphenylnicotinonitrile,
2-amino-4-(2-furyl)-5-methyl-6-phenylnicotinonitrile,
2-amino-6-(3,4-dimethylphenyl)-4-(2-furyl)nicotinonitrile,
2-amino-6-(4-fluorophenyl)-4-(2-furyl)nicotinonitrile,
25 2-amino-4-(3-fluorophenyl)-6-(3-hydroxyphenyl)nicotinonitrile,
6-amino-4-(3-fluorophenyl)-2,4'-bipyridine-5-carbonitrile,
6-amino-4-(2-fluorophenyl)-2,4'-bipyridine-5-carbonitrile,
2-amino-4-butyl-6-methylnicotinonitrile,
2-amino-6-methyl-4-propylnicotinonitrile,
30 2-amino-4-ethyl-6-methylnicotinonitrile, 2-amino-4,6-dimethylnicotinonitrile,
2-amino-4-[2-(hexyloxy)phenyl]-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,

- 2-amino-4-[2-(beta-D-glucopyranosyloxy)phenyl]-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,
4-[2-(allyloxy)phenyl]-2-amino-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,
5 methyl [2-(2-amino-3-cyano-6,7-dihydro-5H-pyrazolo[3,4-h]quinolin-4-yl)phenoxy]acetate,
2-amino-4-(2-ethoxyphenyl)-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,
ethyl 4-[2-amino-3-cyano-6-(2-furyl)pyridin-4-yl]-1H-pyrrole-2-carboxylate,
10 2-amino-6-methylnicotinonitrile,
2-amino-6-(4-cyanophenyl)-4-(2-furyl)nicotinonitrile,
2-amino-6-(4-fluorobenzyl)-4-(2-furyl)nicotinonitrile,
2-amino-5-(4-fluorophenyl)-4-(2-furyl)-6-methylnicotinonitrile,
2-amino-4-(2-furyl)-6-(4-methoxyphenyl)nicotinonitrile,
15 2-amino-4-(2-methylphenyl)-5,6,7,8-tetrahydroquinoline-3-carbonitrile,
2-amino-4-(4-methoxyphenyl)-5,6,7,8-tetrahydroquinoline-3-carbonitrile,
2-amino-4-phenyl-5,6,7,8-tetrahydroquinoline-3-carbonitrile,
2-amino-6-(4-methoxyphenyl)-4-(2-methylphenyl)nicotinonitrile,
2-amino-4,6-bis(4-methoxyphenyl)nicotinonitrile,
20 2-amino-4-(3-chlorophenyl)-6-(4-methoxyphenyl)nicotinonitrile,
2-amino-4-(2-chlorophenyl)-6-(4-methoxyphenyl)nicotinonitrile,
2-amino-4-(2-furyl)-5,6,7,8-tetrahydro-1,6-naphthyridine-3-carbonitrile,
2-amino-4-(2-furyl)-6-(4-methylphenyl)nicotinonitrile,
2-amino-4-(2-furyl)-6-phenylnicotinonitrile,
25 6-amino-4-(2-furyl)-2,3'-bipyridine-5-carbonitrile,
2-amino-6-(1,3-benzodioxol-5-yl)-4-(2-furyl)nicotinonitrile,
2-amino-4-isoquinolin-4-yl-6-(4-methoxyphenyl)nicotinonitrile,
2-amino-4-(1-benzothien-3-yl)-6-(4-methoxyphenyl)nicotinonitrile,
2-amino-6-(4-methoxyphenyl)-4-thien-3-ylnicotinonitrile,
30 2-amino-4-(3-furyl)-6-(4-methoxyphenyl)nicotinonitrile,
2-amino-6-(4-methoxyphenyl)-4-(1H-pyrrol-2-yl)nicotinonitrile,
2-amino-4-(2-furyl)-6-(1H-pyrrol-2-yl)nicotinonitrile,

- 2'-amino-6'-(4-methoxyphenyl)-3,4'-bipyridine-3'-carbonitrile,
2-amino-4-[2-(trifluoromethoxy)phenyl]-6,7-dihydro-5H-pyrazolo[3,4-
h]quinoline-3-carbonitrile,
2-amino-4-(2-furyl)-5H-thiochromeno[4,3-b]pyridine-3-carbonitrile,
5 2-amino-4-{4-[(2-cyanoethyl)(methyl)amino]phenyl}-6,7-dihydro-5H-
pyrazolo[3,4-h]quinoline-3-carbonitrile,
2-amino-4-[2-(2-hydroxyethoxy)phenyl]-6,7-dihydro-5H-pyrazolo[3,4-
h]quinoline-3-carbonitrile,
2-amino-4-(2-methylphenyl)-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
10 carbonitrile,
2-amino-4-[4-(dimethylamino)phenyl]-6,7-dihydro-5H-pyrazolo[3,4-
h]quinoline-3-carbonitrile,
2-amino-4-(1H-indol-7-yl)-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
carbonitrile,
15 methyl 4-(2-amino-3-cyano-6,7-dihydro-5H-pyrazolo[3,4-h]quinolin-4-
yl)benzoate,
methyl 2-(2-amino-3-cyano-6,7-dihydro-5H-pyrazolo[3,4-h]quinolin-4-
yl)benzoate,
[2-(2-amino-3-cyano-6,7-dihydro-5H-pyrazolo[3,4-h]quinolin-4-
20 yl)phenoxy]acetic acid,
2-amino-6-phenylnicotinonitrile,
2-amino-6-cyclohexylnicotinonitrile,
2-amino-4-(2-furyl)-6-(1-trityl-1H-pyrazol-4-yl)nicotinonitrile,
2-amino-4-(2-fluorophenyl)-6-(4-hydroxyphenyl)nicotinonitrile,
25 2,4-diamino-7,8-dihydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-hydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2-amino-7,8-dihydroxy-4-[(2-hydroxyethyl)amino]-5H-chromeno[2,3-
b]pyridine-3-carbonitrile,
2,4-diamino-7,8-dimethoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
30 2-amino-7,8-dihydroxy-4-(propylamino)-5H-chromeno[2,3-b]pyridine-3-
carbonitrile,

- 2-amino-4-(ethylamino)-7,8-dihydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-9-hydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-9-fluoro-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
5 2,4-diamino-7-hydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-(2-hydroxyethoxy)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
8,10-diamino-2,3-dihydro-11H-[1,4]dioxino[2',3':6,7]chromeno[2,3-b]pyridine-9-carbonitrile,
10 2,4,7-triamino-5H-chromeno[2,3-b]pyridine-3-carbonitrile
2,4-diamino-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-(2-ethoxyethoxy)-7-hydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-9-hydroxy-8-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
15 2,4-diamino-6,8-dihydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-ethoxy-7-hydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-(2-ethoxyethoxy)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
20 2,4-diamino-8-(2-aminoethoxy)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-3-cyano-5H-chromeno[2,3-b]pyridine-7-carboxylic acid,
2,4-diamino-8,9-dihydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-(2-morpholin-4-ylethoxy)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
25 [(2,4-diamino-3-cyano-5H-chromeno[2,3-b]pyridin-8-yl)oxy]acetic acid,
2,4-diamino-9-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-(2-pyrrolidin-1-ylethoxy)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2-amino-7,8-dimethoxy-4-(methylamino)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
30 2,4-diamino-8-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

- 2,4-diamino-8-[2-(dimethylamino)ethoxy]-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4,7-triamino-9-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2(2,4-diamino-3-cyano-8-methoxy-5H-chromeno[2,3-b]pyridin-5-yl)malononitrile,
5 2,4-diamino-7,8-di[2-(amino)ethoxy]-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-9-nitro-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2-amino-7,8-dimethoxy-4-[(4-methoxyphenyl)amino]-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
10 2,4-diamino-8-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2(2,4-diamino-3-cyano-7-hydroxy-5H-chromeno[2,3-b]pyridin-5-yl)malononitrile,
2(2,4-diamino-3-cyano-7-bromo-5H-chromeno[2,3-b]pyridin-5-yl)malononitrile,
15 2-amino-8-ethoxy-4-(ethylamino)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4,9-triamino-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4,7-triamino-5H-thiochromeno[2,3-b]pyridine-3-carbonitrile,
20 2-amino-7,8-dimethoxy-4-[(4-methoxyphenyl)amino]-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2(2,4-diamino-3-cyano-7-methoxy-5H-chromeno[2,3-b]pyridin-5-yl)malononitrile,
2,4-diamino-9-hydroxy-8-(piperidin-1-ylmethyl)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
25 7,8-bis(allyloxy)-2,4-diamino-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2-amino-8-(2-ethoxyethoxy)-4-[(2-ethoxyethyl)amino]-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
tert-butyl {[2,4-diamino-7-(2-tert-butoxy-2-oxoethoxy)-3-cyano-5H-chromeno[2,3-b]pyridin-8-yl]oxy}acetate,
30 2-amino-4-[(2-aminoethyl)amino]-7,8-dimethoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

- 2(2,4-diamino-3-cyano-8-hydroxy-5H-chromeno[2,3-b]pyridin-5-yl)malononitrile,
2,4,7-triamino-5H-thiochromeno[2,3-b]pyridine-3-carbonitrile 10,10-dioxide,
- 5 2,4-diamino-7-bromo-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2-amino-7,8-dimethoxy-4-(propylamino)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-7-hydroxy-5H-thiochromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-7-(dimethylamino)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 10 2,4-diamino-7-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2(2,4-diamino-3-cyano-9-methoxy-5H-chromeno[2,3-b]pyridin-5-yl)malononitrile,
2-amino-4-(benzylamino)-7,8-dimethoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 15 8-(allyloxy)-2,4-diamino-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-9-fluoro-5H-thiochromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-7-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-9-(2-pyrrolidin-1-ylethoxy)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 20 2,4-diamino-7-nitro-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-10-methyl-5,10-dihydrobenzo[b]-1,8-naphthyridine-3-carbonitrile,
[(2,4-diamino-3-cyano-5H-chromeno[2,3-b]pyridin-9-yl)oxy]acetic acid,
2-amino-4-[[2-(dimethylamino)ethyl]amino]-7,8-dimethoxy-5H-
- 25 chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-7-nitro-5H-thiochromeno[2,3-b]pyridine-3-carbonitrile 10,10-dioxide, -
2,4-diamino-7-phenyl-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-7-chloro-9-methyl-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 30 2,4-diamino-7-fluoro-5H-thiochromeno[2,3-b]pyridine-3-carbonitrile 10,10-dioxide,
8-ethoxy-2,4-bis(ethylamino)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

- 2,4-diamino-5-(2-fluoro-phenyl)-8-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 2,4-diamino-9-(2-hydroxyethoxy)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 5 2,4-diamino-9-(2-aminoethoxy)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2(2,4-diamino-3-cyano-7-chloro-5H-chromeno[2,3-b]pyridin-5-yl)malononitrile,
- 2,4-bis{[2-(dimethylamino)ethyl]amino}-7,8-dimethoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 10 2-amino-4-[[2-(1,3-dioxo-1,3-dihydro-2H-isoindol-2-yl)ethyl]amino]-7,8-dimethoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 2,4-diamino-7-fluoro-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 2,4-diamino-7-bromo-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 2,4-diamino-9-(pyridin-4-ylmethoxy)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 15 2,4-diamino-7-chloro-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 2,4-diamino-9-tert-butyl-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- ethyl 2,4-diamino-3-cyano-5H-chromeno[2,3-b]pyridine-9-carboxylate,
- 2,4-diamino-9-[2-(dimethylamino)ethoxy]-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 20 2,4-bis(butylamino)-7,8-dimethoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 2-amino-4-(butylamino)-7,8-dimethoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 25 7,8-dimethoxy-2,4-bis(propylamino)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 2,4-bis(ethylamino)-7,8-dimethoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 2-amino-4-(ethylamino)-7,8-dimethoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 30 2,4-diamino-6,8-dimethoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

2,4-diamino-7-(trifluoromethoxy)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

2,4-diamino-7-bromo-9-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

5 2,4-diamino-9-methoxy-7-nitro-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

7,9-diamino-10H-[1,3]dioxolo[6,7]chromeno[2,3-b]pyridine-8-carbonitrile,

7,9-diamino-10H-[1,3]dioxolo[6,7]chromeno[2,3-b]pyridine-8-carbonitrile,

2,4-diamino-8-methyl-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

7,8-dimethoxy-2,4-bis[(2-methoxyethyl)amino]-5H-chromeno[2,3-

10 b]pyridine-3-carbonitrile,

2-amino-7,8-dimethoxy-4-[(2-methoxyethyl)amino]-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

2-amino-7,8-dimethoxy-4-[(2-pyrrolidin-1-ylethyl)amino]-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

15 7,8-dimethoxy-2,4-bis[(2-pyrrolidin-1-ylethyl)amino]-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

2,4-bis(glyciny)-7,8-dimethoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
N-(2-amino-3-cyano-7,8-dimethoxy-5H-chromeno[2,3-b]pyridin-4-yl)glycine,

20 2,4-diamino-3-cyano-5H-chromeno[2,3-b]pyridine-9-carboxylic acid,

2,4-diamino-6-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

2,4-diamino-9-bromo-7-chloro-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

2,4-bis(ethylamino)-7,8-dihydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

25 2,4-diamino-6-bromo-9-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

2,4-diamino-8-hydroxy-7,9-bis(piperidin-1-ylmethyl)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

2,4-diamino-5-phenyl-8-hydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

30 2,4-diamino-5-(3-fluoro-phenyl)-8-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

2,4-diamino-9-hydroxy-6,8-bis(piperidin-1-ylmethyl)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

2,4-diamino-7-bromo-8-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

5 2,4-diamino-5-phenyl-8-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

2,4-diamino-9-fluoro-5H-thiochromeno[2,3-b]pyridine-3-carbonitrile 10,10-dioxide,

2,4-diamino-7-nitro-5H-thiochromeno[2,3-b]pyridine-3-carbonitrile,

10 2,4-diamino-7-methoxy-5H-thiochromeno[2,3-b]pyridine-3-carbonitrile 10,10-dioxide,

2,4-diamino-7-methoxy-5H-thiochromeno[2,3-b]pyridine-3-carbonitrile,

2,4-diamino-5H-thiochromeno[2,3-b]pyridine-3-carbonitrile 10,10-dioxide,

2,4-diamino-5H-thiochromeno[2,3-b]pyridine-3-carbonitrile,

15 2,4-diamino-7-fluoro-5H-thiochromeno[2,3-b]pyridine-3-carbonitrile,

2-amino-7,9-dimethyl-5-oxo-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

2-amino-7-isopropyl-5-oxo-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

2-amino-7-ethyl-5-oxo-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

2-amino-7-methyl-5-oxo-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

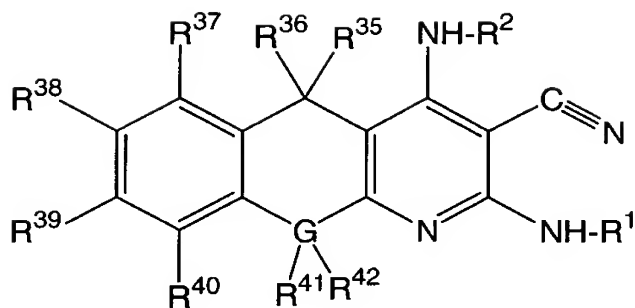
20 2-amino-7-chloro-5-oxo-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

2-amino-7-bromo-5-oxo-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

2-amino-5-oxo-5H-chromeno[2,3-b]pyridine-3-carbonitrile, and

3-amino-5H-pyrido[3,4-b][1,4]benzothiazine-4-carbonitrile.

8. A method of inhibiting mitogen activated protein kinase-
25 activated protein kinase-2 in a subject in need of such inhibition, the
method comprising administering to the subject a compound, or a
pharmaceutically acceptable salt thereof, the compound having the
structure:



wherein:

G is selected from the group consisting of - O -, - S -, and -N-;

when G is -O-, R⁴¹ and R⁴² are absent;

5 when G is -S-, R⁴¹ and R⁴² are optionally absent, or are oxo;

when G is -N-, R⁴¹ is absent, and R⁴² is -H or C₁-C₄-alkyl;

R¹, R², R³⁵, R³⁶, R³⁷, R³⁸, R³⁹, and R⁴⁰ each is independently
selected from the group consisting of

hydrogen, hydroxy, amino, halo, nitro,

10 branched or unbranched C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl,
C₁-C₆ alkoxy, hydroxy C₁-C₆ alkyl, hydroxy C₁-C₆ alkoxy, C₁-C₆ alkoxy C₁-
C₆ alkoxy, C₁-C₆ alkoxy C₁-C₆ alkyl, C₂-C₆ alkenoxy,

branched or unbranched amino C₁-C₆ alkyl, diamino C₂-C₆ alkyl, C₁-
C₆ alkylamino C₁-C₆ alkyl, C₁-C₆ alkylamino, di-(C₁-C₆ alkyl)amino, C₁-C₄
15 alkoxyarylamino, C₁-C₄ alkoxyalkylamino, amino C₁-C₆ alkoxy, di-(C₁-C₄
alkylamino, C₂-C₆ alkoxy, di-(C₁-C₆ alkyl)amino C₁-C₆ alkyl, C₁-C₆
alkylamino C₁-C₆ alkoxy, halo C₁-C₆ alkoxy, dihalo C₁-C₆ alkoxy, trihalo C₁-
C₆ alkoxy, cyano C₁-C₆ alkyl, dicyano C₁-C₆ alkyl, cyano C₁-C₆ alkoxy,
dicyano C₁-C₆ alkoxy, carbamyl C₁-C₄ alkoxy, heterocyclyl C₁-C₄ alkoxy,
20 heteroaryl C₁-C₄ alkoxy, sulfo, sulfamyl, C₁-C₄ alkylaminosulfonyl, hydroxy
C₁-C₄ alkylaminosulfonyl, di-(C₁-C₄ alkyl)aminosulfonyl, C₁-C₄ alkylthio, C₁-
C₄ alkylsulfonyl, C₁-C₄ alkylsulfinyl,

aryl, aryl C₁-C₆ alkyl, heterocyclyl C₁-C₆ alkyl, heteroaryl C₁-C₆ alkyl,
heterocyclyl C₁-C₆ alkoxy, heteroaryl C₁-C₆ alkoxy, aryl C₁-C₆ alkoxy,

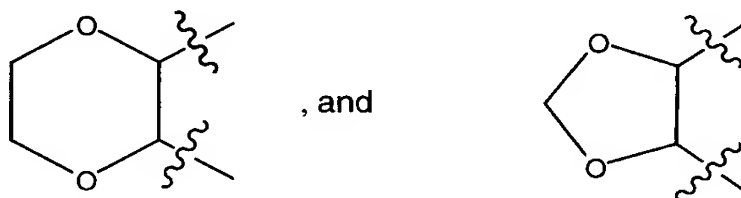
25 where the aryl ring can be substituted or unsubstituted, and, if substituted,

the substituent group is selected from one or more of the group consisting of C₁-C₆ alkyl, halo, amino, and C₁-C₆ alkoxy,

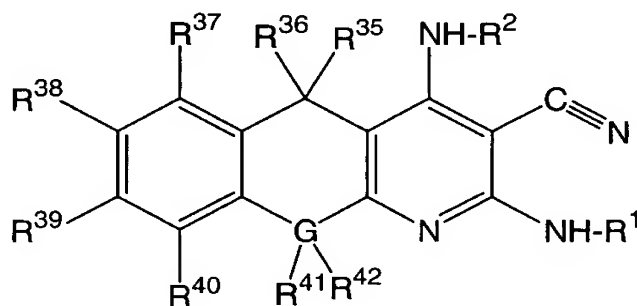
substituted or unsubstituted C₃-C₆ cyclyl, C₃-C₆ heterocyclyl, and, if substituted, the substituent group is selected from one or more of the group consisting of C₁-C₆ alkyl, C₁-C₆ alkoxy, halo, amino, and where the C₃-C₆ heterocyclyl ring contains O, S, or N,

branched or unbranched C₁-C₆ alkoxycarbonyl C₁-C₆ alkoxy, and carboxy, carboxy C₁-C₆ alkoxy, carboxy C₁-C₆ alkyl, hydroxy C₁-C₄ alkoxycarbonyl, C₁-C₄ alkoxycarbonyl,

where R³⁸ and R³⁹ are such that they optionally join to form a ring system of the type selected from



9. The method according to claim 8, wherein the compound is one having the structure:



wherein:

G is selected from the group consisting of - O -, - S -, and -N-;

when G is -O-, R⁴¹ and R⁴² are absent;

when G is -S-, R⁴¹ and R⁴² are optionally absent, or are oxo;

when G is -N-, R⁴¹ is absent, and R⁴² is -H or C₁-C₄-alkyl;

5 R^1 is selected from the group consisting of hydrogen, branched or unbranched alkyl, alkenyl, alkynyl, alkoxy, alkylaryl, arylalkyl, carboxy, carboxyalkyl, hydroxyalkyl, alkylcarboxy, aryl, amino, aminoalkyl, alkylamino, halo, alkylaminoalkyl, alkoxy, alkoxyalkyl, monocyclyl, bicyclyl, polycyclyl, and heterocyclyl;

R^2 is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, alkoxy, hydroxyalkyl, alkylaryl, arylalkyl, alkoxyaryl, aminoalkyl, alkylaminoalkyl, arylaminoalkyl, alkoxyalkyl, alkylcarboxy, and carboxyalkyl;

10 R^{35} is selected from the group consisting of hydrogen, dicyanoalkyl, and substituted or unsubstituted heterocyclyl and cyclyl, where substituents, if any, comprise halo moieties;

15 R^{36} is selected from the group consisting of hydrogen, dicyanoalkyl, and substituted or unsubstituted heterocyclyl and cyclyl, where substituents, if any, comprise halo moieties;

R^{37} is selected from the group consisting of hydrogen, alkoxy, halo, alkyl, alkenyl, alkyl, arylalkyl, or alkylaryl;

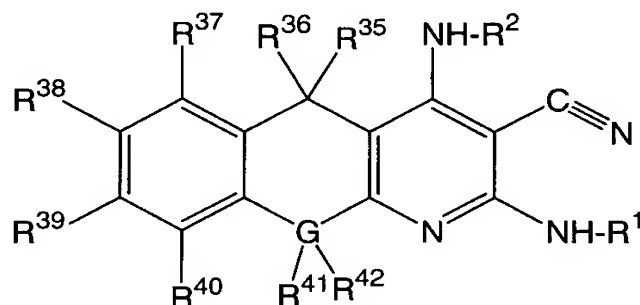
20 R^{38} is selected from the group consisting of hydrogen, hydroxy, alkoxy, alkyl, alkenyl, alkynyl, amino, alkylamino, arylamino, alkylaminoalkyl, carboxy, aminoalkoxy, halo, alkylcarboxyalkyl, alkylamino, aminoalkyl, nitro, aryl, arylalkyl, alkylaryl, or arylamino;

25 R^{39} is selected from the group consisting of hydrogen, hydroxy, alkoxy, alkenoxy, hydroxyalkoxy, alkoxyalkoxy, aminoalkoxy, heterocyclylalkyl, heterocyclylalkoxy, carboxyalkoxy, alkylaminoalkoxy, and alkylcarboxyalkoxy;

where the R^{38} and R^{39} groups optionally join to form a six membered heterocyclic ring; and

30 R^{40} is selected from the group consisting of hydrogen, hydroxy, halo, nitro, amino, alkyl, alkoxy, heterocyclylalkoxy, carboxyalkoxy, pyrrolidylethoxy, carboxymethoxy, hydroxyalkoxy, aminoalkoxy, alkylcarboxy, alkylaminoalkyl, carboxy, and heterocyclylalkyl.

10. A method of inhibiting mitogen activated protein kinase-activated protein kinase-2 in a subject in need of such inhibition, the method comprising administering to the subject a compound, or a pharmaceutically acceptable salt thereof, the compound having the structure:



wherein:

G is selected from the group consisting of -O-, -S-, and -N-;

when G is -O-, R⁴¹ and R⁴² are absent;

10 when G is -S-, R⁴¹ and R⁴² are optionally absent, or are oxo;

when G is -N-, R⁴¹ is absent, and R⁴² is -H or -CH₃;

R¹ is selected from the group consisting of hydrogen, ethyl, dimethylaminoethyl, butyl, propyl, methoxyethyl, tetramethylaminoethyl, and carboxymethyl;

15 R² is selected from the group consisting of hydrogen, hydroxyethyl, propyl, ethyl, methyl, 4-methoxyphenyl, ethoxyethyl, aminoethyl, phenylmethyl, dimethylaminoethyl, phthalaminoethyl, butyl, methoxyethyl, tetramethylaminoethyl, and carboxymethyl;

20 R³⁵ is selected from the group consisting of hydrogen, dicyanomethyl, 2-fluorophenyl, phenyl, and 3-fluorophenyl.

R³⁶ is selected from the group consisting of hydrogen, dicyanomethyl, 2-fluorophenyl, phenyl, and 3-fluorophenyl;

R³⁷ is selected from the group consisting of hydrogen, hydroxy, methoxy, bromo, and 2-pyridomethyl;

25 R³⁸ is selected from the group consisting of hydrogen, hydroxy, methoxy, amino, carboxy, diaminoethoxy, bromo, propoxy,

isobutylcarboxymethoxy, dimethylamino, nitro, phenyl, chloro, pyridylmethyl, and fluoro;

5 R^{39} is selected from the group consisting of hydrogen, hydroxy, methoxy, hydroxyethoxy, ethoxyethoxy, ethoxy, aminoethoxy, morpholinoethoxy, carboxymethoxy, *N*-pyrrolidylethoxy, dimethylaminoethoxy, pyridylmethyl, 2-propenoxy, and isobutylcarboxymethoxy, where the R^{38} and R^{39} groups optionally join to form a six membered heterocyclic ring; and

10 R^{40} is selected from the group consisting of hydrogen, hydroxy, fluoro, methoxy, nitro, amino, pyrrolidylethoxy, carboxymethoxy, methyl, hydroxyethoxy, aminoethoxy, 4-pyridylmethoxy, isobutyl, ethylcarboxy, dimethylaminoethoxy, carboxy, bromo, and pyridylmethyl.

11. The method according to claim 9, wherein the compound is one wherein:

15 G is selected from the group consisting of -O- and -S-;

when G is -O-, R^{41} and R^{42} are absent;

when G is -S-, R^{41} and R^{42} are optionally absent, or are oxo;

R^1 is selected from the group consisting of hydrogen, and C₁-C₂ alky;

20 R^2 is selected from the group consisting of hydrogen, C₁-C₃ alkyl, hydroxy C₁-C₂ alkyl, C₁-C₂ alkoxyphenyl, C₁-C₂ alkoxy C₁-C₂ alkyl, amino C₁-C₂ alkyl, phenyl C₁-C₂ alkyl, and di C₁-C₂ alkylamino C₁-C₂ alkyl;

R^{35} and R^{36} are each independently selected from the group consisting of hydrogen, dicyano C₁-C₂ alkyl, and halophenyl;

25 R^{37} is selected from the group consisting of hydrogen, and hydroxy;

R^{38} is selected from the group consisting of hydrogen, hydroxy, C₁ - C₃ alkoxy, amino, nitro, carboxy, diamino C₁ - C₂ alkoxy, halo, propenoxy, iso C₃ - C₄ alkylcarboxy C₁ - C₂ alkoxy, di C₁ - C₂ alkylamino, and phenyl;

30 R^{39} is selected from the group consisting of hydrogen, hydroxy, C₁ - C₃ alkoxy, hydroxy C₁ - C₂ alkoxy, C₁ - C₂ alkoxy C₁ - C₂ alkoxy, amino C₁ - C₂ alkoxy, morpholino C₁ - C₂ alkoxy, carboxyl C₁ - C₂ alkoxy, pyrrolidyl

C₁ - C₂ alkoxy, di C₁ - C₂ alkylamino C₁ - C₂ alkoxy, pyrrolidyl C₁ - C₂ alkyl, iso C₃ - C₄ alkylcarboxy C₁ - C₂ alkoxy, and 2-propenoxy,

where the R³⁸ and R³⁹ groups can join to form a six membered heterocyclic ring; and

5 R⁴⁰ is selected from the group consisting of hydrogen, hydroxy, halo, C₁-C₂ alkyl, C₁-C₂ alkoxy, nitro, amino, pyrrolidyl C₁-C₂ alkoxy, carboxy C₁-C₂ alkoxy, hydroxy C₁-C₂ alkoxy, and amino C₁-C₂ alkoxy.

12. The method according to claim 10, wherein the compound is one wherein:

10 G is selected from the group consisting of -O- and -S-;
when G is -O-, R⁴¹ and R⁴² are absent;
when G is -S-, R⁴¹ and R⁴² are optionally absent, or are oxo;
R¹ is hydrogen;

15 R² is selected from the group consisting of hydrogen, C₁ - C₃ alkyl, hydroxy C₁ - C₂ alkyl, C₁ - C₂ alkoxyphenyl, C₁ - C₂ alkoxy C₁ - C₂ alkyl, amino C₁ - C₂ alkyl, phenyl C₁ - C₂ alkyl, and di C₁ - C₂ alkylamino C₁ - C₂ alkyl;

R³⁵ and R³⁶ are each independently selected from the group consisting of hydrogen, and dicyano C₁ - C₂ alkyl.

20 R³⁷ is selected from the group consisting of hydrogen, and hydroxy;

R³⁸ is selected from the group consisting of hydrogen, hydroxy, C₁-C₂ alkoxy, amino, nitro, carboxy, diamino C₁-C₂ alkoxy, halo, 2-propenoxy, iso C₃-C₄ alkylcarboxy C₁-C₂ alkoxy, di C₁-C₂ alkylamino, and phenyl;

25 R³⁹ is selected from the group consisting of hydrogen, hydroxy, C₁ - C₂ alkoxy, hydroxy C₁-C₂ alkoxy, C₁-C₂ alkoxy C₁-C₂ alkoxy, amino C₁-C₂ alkoxy, morpholino C₁-C₂ alkoxy, carboxyl C₁-C₂ alkoxy, pyrrolidyl C₁-C₂ alkoxy, di C₁-C₂ alkylamino C₁-C₂ alkoxy, pyrrolidyl C₁-C₂ alkyl, iso C₃-C₄ alkylcarboxy C₁-C₂ alkoxy, and 2-propenoxy;

30 wherein the R³⁸ and R³⁹ groups optionally join to form a six membered heterocyclic ring; and

R⁴⁰ is selected from the group consisting of hydrogen, hydroxy, halo, C₁-C₂ alkoxy, nitro, amino, pyrrolidyl C₁-C₂ alkoxy, and carboxy C₁-C₂ alkoxy.

5 13. The method according to claim 10, wherein the compound is one wherein:

G is selected from the group consisting of -O- and -S-;
when G is -O-, R⁴¹ and R⁴² are absent;
when G is -S-, R⁴¹ and R⁴² are optionally absent, or are oxo;
R¹ is hydrogen;

10 R² is selected from the group consisting of hydrogen, C₁-C₃ alkyl, hydroxy C₁-C₂ alkyl, C₁-C₂ alkoxyphenyl, C₁-C₂ alkoxy C₁-C₂ alkyl, amino C₁-C₂ alkyl, and phenyl C₁-C₂ alkyl;

R³⁵ and R³⁶ are each independently selected from the group consisting of hydrogen, and dicyano C₁-C₂ alkyl.

15 R³⁷ is selected from the group consisting of hydrogen, and hydroxy;

R³⁸ is selected from the group consisting of hydrogen, hydroxy, C₁-C₂ alkoxy, amino, carboxy, diamino C₁-C₂ alkoxy, halo, 2-propenoxy, iso C₃-C₄ alkylcarboxy C₁-C₂ alkoxy, and di C₁-C₂ alkylamino;

20 R³⁹ is selected from the group consisting of hydrogen, hydroxy, C₁-C₂ alkoxy, hydroxy C₁-C₂ alkoxy, C₁-C₂ alkoxy C₁-C₂ alkoxy, amino C₁-C₂ alkoxy, morpholino C₁-C₂ alkoxy, carboxyl C₁-C₂ alkoxy, pyrrolidyl C₁-C₂ alkoxy, di C₁-C₂ alkylamino C₁-C₂ alkoxy, pyrrolidyl C₁-C₂ alkyl, iso C₃-C₄ alkylcarboxy C₁-C₂ alkoxy, and 2-propenoxy;

25 where the R³⁸ and R³⁹ groups optionally join to form a six membered heterocyclic ring; and

R⁴⁰ is selected from the group consisting of hydrogen, hydroxy, halo, C₁-C₂ alkoxy, nitro, amino, and pyrrolidyl C₁-C₂ alkoxy.

30 14. The method according to claim 10, wherein the compound is one wherein:

G is selected from the group consisting of -O- and -S-;
when G is -O-, R⁴¹ and R⁴² are absent;
when G is -S-, R⁴¹ and R⁴² are optionally absent, or are oxo;

R¹ is hydrogen;

R² is selected from the group consisting of hydrogen, C₁-C₃ alkyl, hydroxy C₁-C₂ alkyl, C₁-C₂ alkoxyphenyl, C₁-C₂ alkoxy C₁-C₂ alkyl, and amino C₁-C₂ alkyl;

5 R³⁵ and R³⁶ are each independently selected from the group consisting of hydrogen, and dicyanoethyl;

R³⁷ is selected from the group consisting of hydrogen, and hydroxy;

10 R³⁸ is selected from the group consisting of hydrogen, hydroxy, C₁-C₂ alkoxy, amino, carboxy, diamino C₁-C₂ alkoxy, halo, 2-propenoxy, iso C₃-C₄ alkylcarboxy C₁-C₂ alkoxy, and di C₁-C₂ alkylamino;

15 R³⁹ is selected from the group consisting of hydrogen, hydroxy, C₁-C₂ alkoxy, hydroxy C₁-C₂ alkoxy, C₁-C₂ alkoxy C₁-C₂ alkoxy, amino C₁-C₂ alkoxy, morpholino C₁-C₂ alkoxy, carboxyl C₁-C₂ alkoxy, pyrrolidyl C₁-C₂ alkoxy, di C₁-C₂ alkylamino C₁-C₂ alkoxy, pyrrolidyl C₁-C₂ alkyl, iso C₃-C₄ alkylcarboxy C₁-C₂ alkoxy, and 2-propenoxy;

where the R³⁸ and R³⁹ groups optionally join to form a six membered heterocyclic ring; and

R⁴⁰ is selected from the group consisting of hydrogen, hydroxy, halo, methoxy, nitro, and amino.

20 15. The method according to claim 1, wherein the aminocyanopyridine MK-2 inhibiting compound comprises at least one compound that is selected from the group consisting of:
2-amino-4-(2-fluorophenyl)-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,
25 2-amino-4-(2-furyl)-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,
2-amino-4-(2,3-difluorophenyl)-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,
8-amino-6-(2-furyl)-4,5-dihydro-1H-pyrazolo[4,3-h]quinoline-7-carbonitrile,
2-amino-3-cyano-4-(2-furyl)-5,6-dihydrobenzo[h]quinoline-8-carboxylic
30 acid,
4-[2-amino-3-cyano-6-(2-furyl)pyridin-4-yl]-1H-pyrrole-2-carboxamide,
2-amino-4-phenyl-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,

- 2-amino-6-(2-furyl)-4-(1-methyl-1H-imidazol-4-yl)nicotinonitrile,
8-amino-6-(2-furyl)-4,5-dihydro-1H-pyrazolo[4,3-h]quinoline-7-carbonitrile,
2-amino-4-(2-furyl)-8-hydroxy-5,6-dihydrobenzo[h]quinoline-3-carbonitrile,
2-amino-4-(2,6-difluorophenyl)-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
5 carbonitrile,
2-amino-6-(4-hydroxyphenyl)-4-(1H-imidazol-5-yl)nicotinonitrile,
2-amino-4-(2-fluorophenyl)-6-(2-furyl)nicotinonitrile, 2-amino-4-(2-
fluorophenyl)-6-(2-furyl)nicotinonitrile,
2-amino-4-(2-fluorophenyl)-5,6-dihydrobenzo[h]quinoline-3-carbonitrile,
10 4-[6-amino-5-cyano-4-(2-furyl)pyridin-2-yl]benzoic acid,
2-amino-6-(2-furyl)-4-(1H-imidazol-5-yl)nicotinonitrile,
2-amino-4-(2-furyl)-6-(1H-pyrazol-3-yl)nicotinonitrile,
2-amino-3-cyano-4-(4H-1,2,4-triazol-3-yl)-5,6-dihydrobenzo[h]quinoline-8-
carboxylic acid,
15 2-amino-6-(3-hydroxyphenyl)-4-(1H-imidazol-5-yl)nicotinonitrile,
2-amino-6-(2-furyl)-4-(1H-imidazol-4-yl)nicotinonitrile,
2-amino-4-(2,4-difluorophenyl)-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
carbonitrile, 4,6-diamino-2-(trifluoromethyl)-2,3-dihydrofuro[2,3-b]pyridine-
5-carbonitrile,
20 2-amino-4-(2-furyl)-6,8-dihydro-5H-pyrrolo[3,4-h]quinoline-3-carbonitrile,
4-[6-amino-5-cyano-4-(2-fluorophenyl)pyridin-2-yl]benzoic acid,
2-amino-4-(2-furyl)-5,6-dihydro-1,8-phenanthroline-3-carbonitrile,
2-amino-6-(3,4-dihydroxyphenyl)-4-(2-fluorophenyl)nicotinonitrile,
2-amino-4-(1-methyl-1H-imidazol-4-yl)-6-phenylnicotinonitrile,
25 2-amino-4-(2-furyl)-6-(1H-pyrazol-3-yl)nicotinonitrile,
4-[6-amino-5-cyano-4-(1H-imidazol-5-yl)pyridin-2-yl]benzoic acid,
2-amino-4-(3-fluorophenyl)-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
carbonitrile,
2-amino-6-(3,4-dihydroxyphenyl)-4-(2-fluorophenyl)nicotinonitrile,
30 *N*-{4-[6-amino-5-cyano-4-(2-furyl)pyridin-2-yl]phenyl}methanesulfonamide,
2-amino-4-(2-furyl)-6,7-dihydro-5H-pyrrolo[2,3-h]quinoline-3-carbonitrile,
2-amino-4-(1H-imidazol-5-yl)-6-phenylnicotinonitrile,

- 2-amino-4-(2-furyl)-5,6-dihydrobenzo[h]quinoline-3-carbonitrile,
2-amino-4-(1H-imidazol-5-yl)-6-(4-methoxyphenyl)nicotinonitrile,
2-amino-6-(3-chlorophenyl)-4-(1H-imidazol-5-yl)nicotinonitrile,
2-amino-4-(2-furyl)-6-(1H-pyrazol-4-yl)nicotinonitrile,
5 2-amino-4-(4-methoxyphenyl)-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
carbonitrile,
2-amino-4-(2,5-difluorophenyl)-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
carbonitrile,
2-amino-4-(4-fluorophenyl)-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
10 carbonitrile,
2-amino-4-(4H-1,2,4-triazol-3-yl)-5,6-dihydrobenzo[h]quinoline-3-
carbonitrile,
4,6-diamino-2-(chloromethyl)-2,3-dihydrofuro[2,3-b]pyridine-5-carbonitrile,
2-amino-4-(1H-imidazol-4-yl)-6-phenylnicotinonitrile,
15 4-[6-amino-5-cyano-4-(2-furyl)pyridin-2-yl]benzenesulfonamide,
4-[6-amino-5-cyano-4-(2-furyl)pyridin-2-yl]phenylboronic acid,
2-amino-6-(4-methoxyphenyl)-4-(4H-1,2,4-triazol-3-yl)nicotinonitrile,
2-amino-4-(2-fluorophenyl)-6-(3-furyl)nicotinonitrile,
2-amino-6-(2-furyl)-4-(methylthio)nicotinonitrile,
20 2-amino-4-(2-fluorophenyl)-6-(3-hydroxyphenyl)nicotinonitrile,
8-amino-6-(2-furyl)-4,5-dihydro-2H-pyrazolo[4,3-h]quinoline-7-carbonitrile,
2-amino-4-(2-bromophenyl)-6-(2-furyl)nicotinonitrile,
2-amino-4-(2-fluorophenyl)-6-(4-hydroxyphenyl)nicotinonitrile,
2-amino-4-phenyl-6-thien-2-ylnicotinonitrile,
25 2-amino-4-(3-methoxyphenyl)-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
carbonitrile,
2-amino-4-(2-furyl)-7-methyl-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
carbonitrile,
2-amino-4-(2-fluorophenyl)-6-(1H-pyrrol-2-yl)nicotinonitrile,
30 2-amino-4-(2-furyl)-5-methyl-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
carbonitrile,
2-amino-4-(2-furyl)-6-(1-methyl-1H-pyrrol-3-yl)nicotinonitrile,

3-amino-5,6,7,8-tetrahydroisoquinoline-4-carbonitrile,
N-[4-(2-amino-3-cyano-6,7-dihydro-5H-pyrazolo[3,4-*h*]quinolin-4-
yl)phenyl]acetamide,
6-amino-4-[(4-methoxyphenyl)amino]-2-(trifluoromethyl)-2,3-
5 dihydrofuro[2,3-*b*]pyridine-5-carbonitrile,
4-[6-amino-5-cyano-4-(2-furyl)pyridin-2-yl]-*N*-(tert-
butyl)benzenesulfonamide,
4,6-diamino-2-ethyl-2,3-dihydrofuro[2,3-*b*]pyridine-5-carbonitrile,
6-amino-4-(2-furyl)-2,4'-bipyridine-5-carbonitrile, 2,4-diamino-6-
10 (methylthio)nicotinonitrile,
3-(2-amino-3-cyano-6,7-dihydro-5H-pyrazolo[3,4-*h*]quinolin-4-yl)benzoic
acid,
2-amino-6-(4-chlorophenyl)-4-(1*H*-imidazol-5-yl)nicotinonitrile,
2-amino-4-(1,3-benzodioxol-4-yl)-6,7-dihydro-5H-pyrazolo[3,4-*h*]quinoline-
15 3-carbonitrile, 4,6-diamino-2-methyl-2,3-dihydrofuro[2,3-*b*]pyridine-5-
carbonitrile,
2-amino-4-(1*H*-imidazol-5-yl)-6-[4-(methylsulfonyl)phenyl]nicotinonitrile,
2,4-diaminoquinoline-3-carbonitrile,
2,8-diamino-4-(2-furyl)-5,6-dihydrobenzo[*h*]quinoline-3-carbonitrile,
20 2-amino-4,6-di(2-furyl)nicotinonitrile,
4,6-diamino-2-butyl-2,3-dihydrofuro[2,3-*b*]pyridine-5-carbonitrile,
ethyl 4-[6-amino-5-cyano-4-(1*H*-imidazol-5-yl)pyridin-2-yl]benzoate,
2,4-diamino-6-methoxynicotinonitrile,
2-amino-4-methylnicotinonitrile,
25 2-amino-4-(4-cyanophenyl)-6,7-dihydro-5H-pyrazolo[3,4-*h*]quinoline-3-
carbonitrile,
2-amino-4-cyclopropyl-6-methylnicotinonitrile;
2-amino-4-(2-furyl)-6-(1-methyl-1*H*-pyrrol-2-yl)nicotinonitrile,
2-amino-4-(2-chlorophenyl)-6,7-dihydro-5H-pyrazolo[3,4-*h*]quinoline-3-
30 carbonitrile,
2-amino-6-(2-furyl)-4-(4-phenoxyphenyl)nicotinonitrile,

- 2-amino-4-pyridin-3-yl-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,
2-amino-6-{{2-(4-chlorophenyl)-2-oxoethyl}thio}-4-(2-furyl)pyridine-3,5-dicarbonitrile,
5 4-[2-amino-3-cyano-6-(2-furyl)pyridin-4-yl]phenylboronic acid,
2-amino-6-(3-chlorophenyl)-4-(1H-imidazol-4-yl)nicotinonitrile,
4-(6-amino-5-cyano-4-phenylpyridin-2-yl)-*N*-(tert-butyl)benzenesulfonamide,
2-amino-4-methoxynicotinonitrile,
10 4-[2-amino-3-cyano-6-(2-furyl)pyridin-4-yl]benzoic acid,
4,6-diamino-2-[(4-methoxyphenoxy)methyl]-2,3-dihydrofuro[2,3-b]pyridine-5-carbonitrile, 2-amino-4-(2-fluorophenyl)-6-(4-methoxyphenyl)nicotinonitrile,
4-[6-amino-5-cyano-4-(2-fluorophenyl)pyridin-2-yl]-*N*-(tert-butyl)benzenesulfonamide, (2,4-diamino-3-cyano-5H-chromeno[2,3-b]pyridin-9-yl)oxy]acetic acid,
15 3-Pyridinecarbonitrile, 2-Amino-4-Methylm
2-amino-6-(2-furyl)nicotinonitrile,
2-amino-4-(2-furyl)-6-(3-hydroxyphenyl)nicotinonitrile,
20 4-[6-amino-5-cyano-4-(2-furyl)pyridin-2-yl]benzamide,
2-amino-4-(2-furyl)-7-hydroxy-5,6-dihydrobenzo[h]quinoline-3-carbonitrile,
2-amino-4-(2-furyl)-6-(1H-indol-3-yl)nicotinonitrile,
2-amino-4-pyridin-4-yl-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,
25 2-amino-4-(3-fluorophenyl)-6-(4-hydroxyphenyl)nicotinonitrile,
2-amino-4-[2-(difluoromethoxy)phenyl]-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,
2-amino-4-(2-furyl)-6-thien-3-ylnicotinonitrile,
2-amino-4-(3-fluorophenyl)-6-(4-methoxyphenyl)nicotinonitrile,
30 2-[2-amino-3-cyano-6-(2-furyl)pyridin-4-yl]phenylboronic acid,
2,4-diamino-6-propylpyridine-3,5-dicarbonitrile,
2,4-diamino-7,8-dihydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

- 2,4-diamino-8-hydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2-amino-7,8-dihydroxy-4-[(2-hydroxyethyl)amino]-5H-chromeno[2,3-
b]pyridine-3-carbonitrile,
2,4-diamino-7,8-dimethoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
5 2-amino-7,8-dihydroxy-4-(propylamino)-5H-chromeno[2,3-b]pyridine-3-
carbonitrile,
2-amino-4-(ethylamino)-7,8-dihydroxy-5H-chromeno[2,3-b]pyridine-3-
carbonitrile,
2,4-diamino-9-hydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
10 2,4-diamino-9-fluoro-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-7-hydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-(2-hydroxyethoxy)-5H-chromeno[2,3-b]pyridine-3-
carbonitrile,
8,10-diamino-2,3-dihydro-11H-[1,4]dioxino[2',3':6,7]chromeno[2,3-
15 b]pyridine-9-carbonitrile,
2,4,7-triamino-5H-chromeno[2,3-b]pyridine-3-carbonitrile
2,4-diamino-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-(2-ethoxyethoxy)-7-hydroxy-5H-chromeno[2,3-b]pyridine-3-
carbonitrile, 2,4-diamino-9-hydroxy-8-methoxy-5H-chromeno[2,3-
20 b]pyridine-3-carbonitrile,
2,4-diamino-6,8-dihydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-ethoxy-7-hydroxy-5H-chromeno[2,3-b]pyridine-3-
carbonitrile,
2,4-diamino-8-(2-ethoxyethoxy)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
25 2,4-diamino-8-(2-aminoethoxy)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-3-cyano-5H-chromeno[2,3-b]pyridine-7-carboxylic acid,
2,4-diamino-8,9-dihydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-(2-morpholin-4-ylethoxy)-5H-chromeno[2,3-b]pyridine-3-
carbonitrile, [(2,4-diamino-3-cyano-5H-chromeno[2,3-b]pyridin-8-
30 yl)oxy]acetic acid,
2,4-diamino-9-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

- 2,4-diamino-8-(2-pyrrolidin-1-ylethoxy)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2-amino-7,8-dimethoxy-4-(methlamino)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
5 2,4-diamino-8-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-[2-(dimethylamino)ethoxy]-5H-chromeno[2,3-b]pyridine-3-carbonitrile, 2,4,7-triamino-9-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
10 2(2,4-diamino-3-cyano-8-methoxy-5H-chromeno[2,3-b]pyridin-5-yl)malononitrile,
2,4-diamino-7,8-di[2-(amino)ethoxy]-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-9-nitro-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2-amino-7,8-dimethoxy-4-[(4-methoxyphenyl)amino]-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
15 2,4-diamino-8-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2(2,4-diamino-3-cyano-7-hydroxy-5H-chromeno[2,3-b]pyridin-5-yl)malononitrile,
2(2,4-diamino-3-cyano-7-bromo-5H-chromeno[2,3-b]pyridin-5-yl)malononitrile,
20 2-amino-8-ethoxy-4-(ethylamino)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4,9-triamino-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4,7-triamino-5H-thiochromeno[2,3-b]pyridine-3-carbonitrile,
25 2-amino-7,8-dimethoxy-4-[(4-methoxyphenyl)amino]-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2(2,4-diamino-3-cyano-7-methoxy-5H-chromeno[2,3-b]pyridin-5-yl)malononitrile,
2,4-diamino-9-hydroxy-8-(piperidin-1-ylmethyl)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
30 7,8-bis(allyloxy)-2,4-diamino-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

- 2-amino-8-(2-ethoxyethoxy)-4-[(2-ethoxyethyl)amino]-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
tert-butyl {[2,4-diamino-7-(2-tert-butoxy-2-oxoethoxy)-3-cyano-5H-chromeno[2,3-b]pyridin-8-yl]oxy}acetate,
- 5 2-amino-4-[(2-aminoethyl)amino]-7,8-dimethoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2(2,4-diamino-3-cyano-8-hydroxy-5H-chromeno[2,3-b]pyridin-5-yl)malononitrile,
2,4,7-triamino-5H-thiochromeno[2,3-b]pyridine-3-carbonitrile 10,10-dioxide,
- 10 2,4-diamino-7-bromo-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2-amino-7,8-dimethoxy-4-(propylamino)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-7-hydroxy-5H-thiochromeno[2,3-b]pyridine-3-carbonitrile,
- 15 2,4-diamino-7-(dimethylamino)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-7-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2(2,4-diamino-3-cyano-9-methoxy-5H-chromeno[2,3-b]pyridin-5-yl)malononitrile,
2-amino-4-(benzylamino)-7,8-dimethoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 20 8-(allyloxy)-2,4-diamino-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-9-fluoro-5H-thiochromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-7-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-9-(2-pyrrolidin-1-ylethoxy)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 25 2,4-diamino-7-nitro-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-10-methyl-5,10-dihydrobenzo[b]-1,8-naphthyridine-3-carbonitrile,
[(2,4-diamino-3-cyano-5H-chromeno[2,3-b]pyridin-9-yl)oxy]acetic acid,
- 30 2-amino-4-[[2-(dimethylamino)ethyl]amino]-7,8-dimethoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

2,4-diamino-7-nitro-5H-thiochromeno[2,3-b]pyridine-3-carbonitrile 10,10-dioxide,

2,4-diamino-7-phenyl-5H-chromeno[2,3-b]pyridine-3-carbonitrile, and prodrugs, salts, tautomers, and combinations thereof.

5 16. The method according to claim 1, wherein the aminocyanopyridine MK-2 inhibiting compound comprises at least one compound that is selected from the group consisting of:

2-amino-4-(2-fluorophenyl)-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,

10 2-amino-4-(2-furyl)-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,
2-amino-4-(2,3-difluorophenyl)-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,

8-amino-6-(2-furyl)-4,5-dihydro-1H-pyrazolo[4,3-h]quinoline-7-carbonitrile,
2-amino-3-cyano-4-(2-furyl)-5,6-dihydrobenzo[h]quinoline-8-carboxylic
15 acid,

4-[2-amino-3-cyano-6-(2-furyl)pyridin-4-yl]-1H-pyrrole-2-carboxamide,

2-amino-4-phenyl-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,

2-amino-6-(2-furyl)-4-(1-methyl-1H-imidazol-4-yl)nicotinonitrile,

8-amino-6-(2-furyl)-4,5-dihydro-1H-pyrazolo[4,3-h]quinoline-7-carbonitrile,

20 2-amino-4-(2-furyl)-8-hydroxy-5,6-dihydrobenzo[h]quinoline-3-carbonitrile,
2-amino-4-(2,6-difluorophenyl)-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,

2-amino-6-(4-hydroxyphenyl)-4-(1H-imidazol-5-yl)nicotinonitrile,

2-amino-4-(2-fluorophenyl)-6-(2-furyl)nicotinonitrile, 2-amino-4-(2-

25 fluorophenyl)-6-(2-furyl)nicotinonitrile,

2-amino-4-(2-fluorophenyl)-5,6-dihydrobenzo[h]quinoline-3-carbonitrile,

4-[6-amino-5-cyano-4-(2-furyl)pyridin-2-yl]benzoic acid,

2-amino-6-(2-furyl)-4-(1H-imidazol-5-yl)nicotinonitrile,

2-amino-4-(2-furyl)-6-(1H-pyrazol-3-yl)nicotinonitrile,

30 2-amino-3-cyano-4-(4H-1,2,4-triazol-3-yl)-5,6-dihydrobenzo[h]quinoline-8-carboxylic acid,

2-amino-6-(3-hydroxyphenyl)-4-(1H-imidazol-5-yl)nicotinonitrile,

- 2-amino-6-(2-furyl)-4-(1H-imidazol-4-yl)nicotinonitrile,
2-amino-4-(2,4-difluorophenyl)-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
carbonitrile, 4,6-diamino-2-(trifluoromethyl)-2,3-dihydrofuro[2,3-b]pyridine-
5-carbonitrile,
- 5 2-amino-4-(2-furyl)-6,8-dihydro-5H-pyrrolo[3,4-h]quinoline-3-carbonitrile,
4-[6-amino-5-cyano-4-(2-fluorophenyl)pyridin-2-yl]benzoic acid,
2-amino-4-(2-furyl)-5,6-dihydro-1,8-phenanthroline-3-carbonitrile,
2-amino-6-(3,4-dihydroxyphenyl)-4-(2-fluorophenyl)nicotinonitrile,
2-amino-4-(1-methyl-1H-imidazol-4-yl)-6-phenylnicotinonitrile,
- 10 2-amino-4-(2-furyl)-6-(1H-pyrazol-3-yl)nicotinonitrile,
4-[6-amino-5-cyano-4-(1H-imidazol-5-yl)pyridin-2-yl]benzoic acid,
2-amino-4-(3-fluorophenyl)-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
carbonitrile,
2-amino-6-(3,4-dihydroxyphenyl)-4-(2-fluorophenyl)nicotinonitrile,
- 15 *N*-{4-[6-amino-5-cyano-4-(2-furyl)pyridin-2-yl]phenyl}methanesulfonamide,
2-amino-4-(2-furyl)-6,7-dihydro-5H-pyrrolo[2,3-h]quinoline-3-carbonitrile,
2-amino-4-(1H-imidazol-5-yl)-6-phenylnicotinonitrile,
2-amino-4-(2-furyl)-5,6-dihydrobenzo[h]quinoline-3-carbonitrile,
2-amino-4-(1H-imidazol-5-yl)-6-(4-methoxyphenyl)nicotinonitrile,
- 20 2,4-diamino-7,8-dihydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-hydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2-amino-7,8-dihydroxy-4-[(2-hydroxyethyl)amino]-5H-chromeno[2,3-
b]pyridine-3-carbonitrile,
2,4-diamino-7,8-dimethoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 25 2-amino-7,8-dihydroxy-4-(propylamino)-5H-chromeno[2,3-b]pyridine-3-
carbonitrile,
2-amino-4-(ethylamino)-7,8-dihydroxy-5H-chromeno[2,3-b]pyridine-3-
carbonitrile,
2,4-diamino-9-hydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 30 2,4-diamino-9-fluoro-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-7-hydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

- 2,4-diamino-8-(2-hydroxyethoxy)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
8,10-diamino-2,3-dihydro-11H-[1,4]dioxino[2',3':6,7]chromeno[2,3-b]pyridine-9-carbonitrile,
- 5 2,4,7-triamino-5H-chromeno[2,3-b]pyridine-3-carbonitrile
2,4-diamino-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-(2-ethoxyethoxy)-7-hydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile, 2,4-diamino-9-hydroxy-8-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 10 2,4-diamino-6,8-dihydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-ethoxy-7-hydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-(2-ethoxyethoxy)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-(2-aminoethoxy)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 15 2,4-diamino-3-cyano-5H-chromeno[2,3-b]pyridine-7-carboxylic acid,
2,4-diamino-8,9-dihydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-(2-morpholin-4-ylethoxy)-5H-chromeno[2,3-b]pyridine-3-carbonitrile, [(2,4-diamino-3-cyano-5H-chromeno[2,3-b]pyridin-8-yl)oxy]acetic acid,
- 20 2,4-diamino-9-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-(2-pyrrolidin-1-ylethoxy)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2-amino-7,8-dimethoxy-4-(methylamino)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
- 25 2,4-diamino-8-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-[2-(dimethylamino)ethoxy]-5H-chromeno[2,3-b]pyridine-3-carbonitrile, 2,4,7-triamino-9-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2(2,4-diamino-3-cyano-8-methoxy-5H-chromeno[2,3-b]pyridin-5-yl)malononitrile,
- 30 2,4-diamino-7,8-di[2-(amino)ethoxy]-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

2,4-diamino-9-nitro-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2-amino-7,8-dimethoxy-4-[(4-methoxyphenyl)amino]-5H-chromeno[2,3-
b]pyridine-3-carbonitrile,

2,4-diamino-8-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
5 2(2,4-diamino-3-cyano-7-hydroxy-5H-chromeno[2,3-b]pyridin-5-
yl)malononitrile,

2(2,4-diamino-3-cyano-7-bromo-5H-chromeno[2,3-b]pyridin-5-
yl)malononitrile,

2-amino-8-ethoxy-4-(ethylamino)-5H-chromeno[2,3-b]pyridine-3-
10 carbonitrile,

2,4,9-triamino-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

2,4,7-triamino-5H-thiochromeno[2,3-b]pyridine-3-carbonitrile,

2-amino-7,8-dimethoxy-4-[(4-methoxyphenyl)amino]-5H-chromeno[2,3-
b]pyridine-3-carbonitrile,

15 2(2,4-diamino-3-cyano-7-methoxy-5H-chromeno[2,3-b]pyridin-5-
yl)malononitrile,

2,4-diamino-9-hydroxy-8-(piperidin-1-ylmethyl)-5H-chromeno[2,3-
b]pyridine-3-carbonitrile,

7,8-bis(allyloxy)-2,4-diamino-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

20 2-amino-8-(2-ethoxyethoxy)-4-[(2-ethoxyethyl)amino]-5H-chromeno[2,3-
b]pyridine-3-carbonitrile, and

prodrugs, salts, tautomers, and combinations thereof.

17. The method according to claim 1, wherein the
aminocyanopyridine MK-2 inhibiting compound is selected from the group
25 consisting of:

2-amino-4-(2-fluorophenyl)-6,8-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
carbonitrile,

2-amino-4-(2-furyl)-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-carbonitrile,

2-amino-4-(2,3-difluorophenyl)-6,7-dihydro-5H-pyrazolo[3,4-h]quinoline-3-
30 carbonitrile,

8-amino-6-(2-furyl)-4,5-dihydro-1H-pyrazolo[4,3-h]quinoline-7-carbonitrile,

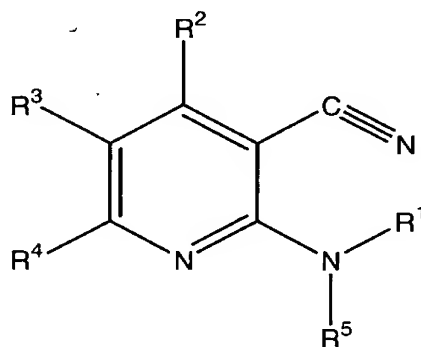
2,4-diamino-7,8-dihydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

- 2,4-diamino-8-hydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2-amino-7,8-dihydroxy-4-[(2-hydroxyethyl)amino]-5H-chromeno[2,3-
b]pyridine-3-carbonitrile,
2,4-diamino-7,8-dimethoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
5 2-amino-7,8-dihydroxy-4-(propylamino)-5H-chromeno[2,3-b]pyridine-3-
carbonitrile,
2-amino-4-(ethylamino)-7,8-dihydroxy-5H-chromeno[2,3-b]pyridine-3-
carbonitrile,
2,4-diamino-9-hydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
10 2,4-diamino-9-fluoro-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-7-hydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-(2-hydroxyethoxy)-5H-chromeno[2,3-b]pyridine-3-
carbonitrile,
8,10-diamino-2,3-dihydro-11H-[1,4]dioxino[2',3':6,7]chromeno[2,3-
15 b]pyridine-9-carbonitrile,
2,4,7-triamino-5H-chromeno[2,3-b]pyridine-3-carbonitrile
2,4-diamino-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-(2-ethoxyethoxy)-7-hydroxy-5H-chromeno[2,3-b]pyridine-3-
carbonitrile, 2,4-diamino-9-hydroxy-8-methoxy-5H-chromeno[2,3-
20 b]pyridine-3-carbonitrile,
2,4-diamino-6,8-dihydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-ethoxy-7-hydroxy-5H-chromeno[2,3-b]pyridine-3-
carbonitrile,
2,4-diamino-8-(2-ethoxyethoxy)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
25 2,4-diamino-8-(2-aminoethoxy)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-3-cyano-5H-chromeno[2,3-b]pyridine-7-carboxylic acid,
2,4-diamino-8,9-dihydroxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-(2-morpholin-4-ylethoxy)-5H-chromeno[2,3-b]pyridine-3-
carbonitrile, [(2,4-diamino-3-cyano-5H-chromeno[2,3-b]pyridin-8-
30 yl)oxy]acetic acid,
2,4-diamino-9-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,

2,4-diamino-8-(2-pyrrolidin-1-ylethoxy)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2-amino-7,8-dimethoxy-4-(methylamino)-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
5 2,4-diamino-8-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2,4-diamino-8-[2-(dimethylamino)ethoxy]-5H-chromeno[2,3-b]pyridine-3-carbonitrile, 2,4,7-triamino-9-methoxy-5H-chromeno[2,3-b]pyridine-3-carbonitrile,
2(2,4-diamino-3-cyano-8-methoxy-5H-chromeno[2,3-b]pyridin-5-yl)malononitrile, and
10 prodrugs, salts, tautomers, and combinations thereof.

18. A method of preventing or treating a $\text{TNF}\alpha$ mediated disease or disorder in a subject in need of such prevention or treatment, the method comprising administering to the subject an effective amount of an
15 aminocyanopyridine MK-2 inhibiting compound.

19. The method according to claim 18, wherein the aminocyanopyridine MK-2 inhibiting compound is one having the formula:



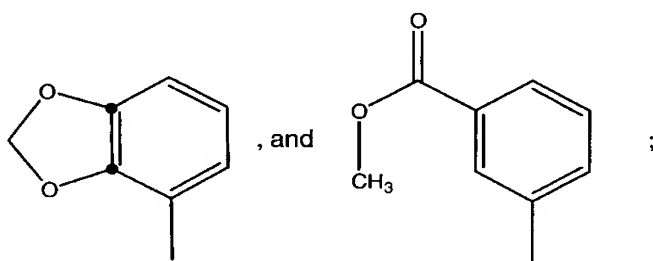
wherein:

20 R¹ is selected from the group consisting of -H, methyl, ethyl, propyl, butyl, $-(\text{CH}_2)\text{COOH}$, phenyl, pyridyl, dimethylaminoethyl, methoxyethyl, tetramethylaminoethyl, carboxymethyl, and phenylacetyl;

R² is selected from the group consisting of -H, methyl, ethyl, propyl, butyl, amino, phenyl, methoxy, carboxy, carboxymethyl,
25 hydroxyethylamino, propylamino, ethylamino, methylamino, methoxyethyl,

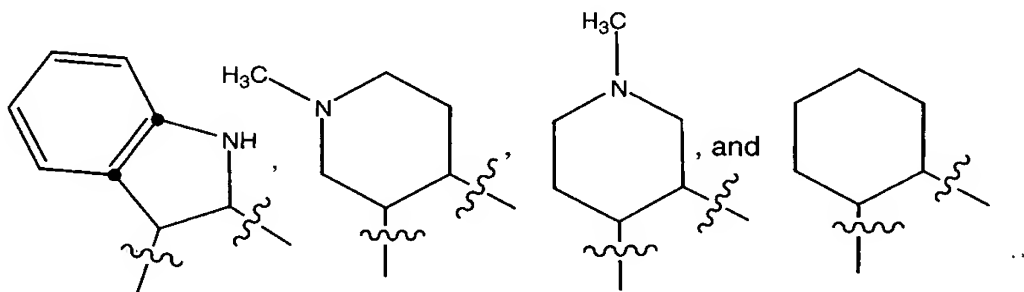
ethoxyethylamino, aminoethylamino, benzylamino,
dimethylaminoethylamino, phthalaminoethyl, fluorophenyl, difluorophenyl,
chlorophenyl, bromophenyl, furyl, carbamylpyrryl, methyl-1,3-isodiazoyl,
1,3-isodiazoyl, 1,3,4-triazoyl, methoxyphenyl, -S(CH₃),
5 tetramethylaminoethyl, acetaminophenyl, methoxyphenylamino,
carboxyphenyl, carboxy-3-isopyrryl, cyanophenyl, cyclopropyl,
phenoxyphenyl, pyridyl, dihydroxybromophenyl, difluoromethoxyphenyl,
trifluoromethylphenyl, trifluoromethylfluorophenyl, hydroxyphenyl,
methylaminomethyl, methylaminoethyl, thiophyl, pyrryl, aminomethyl,

10



R³ is selected from the group consisting of -H, methyl, ethyl, propyl,
isopropyl, cyano, aminomethyl, phenyl, fluorophenyl, and amino;

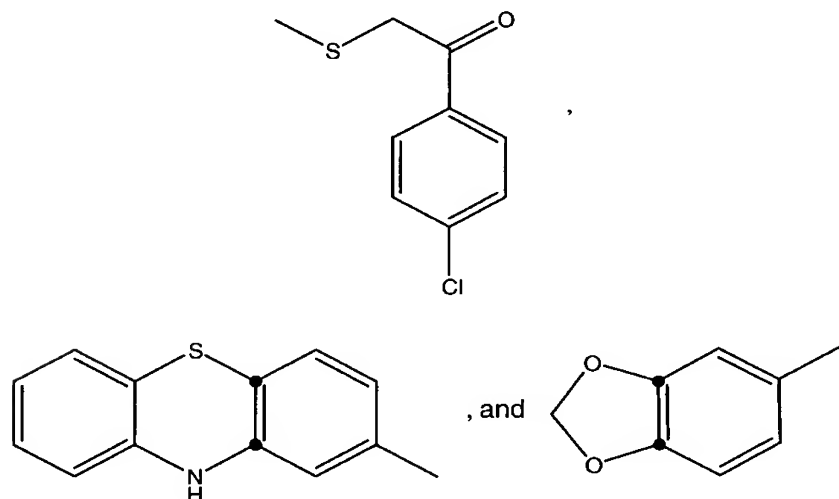
wherein the R² and R³ groups are such that they optionally join to
15 form a ring system selected from:



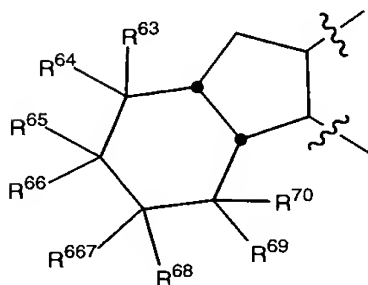
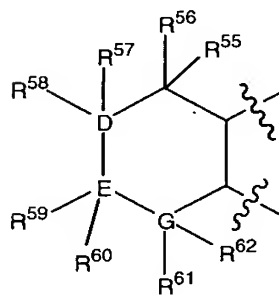
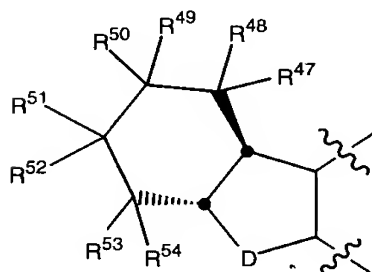
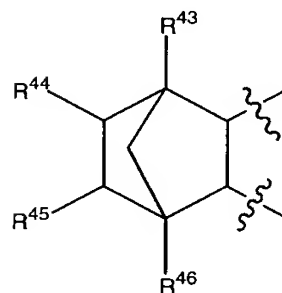
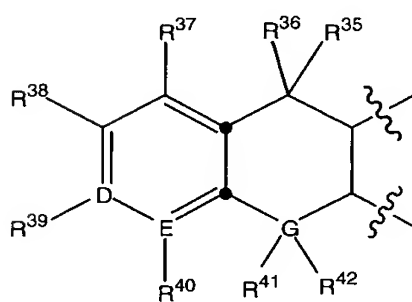
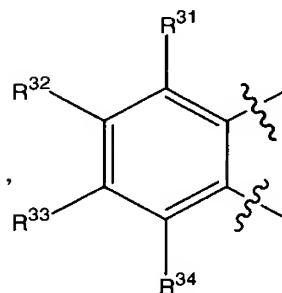
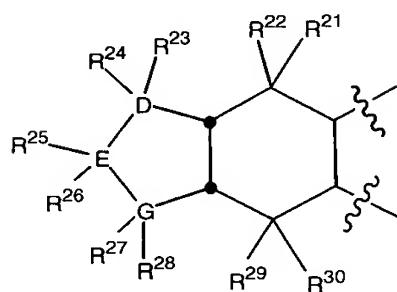
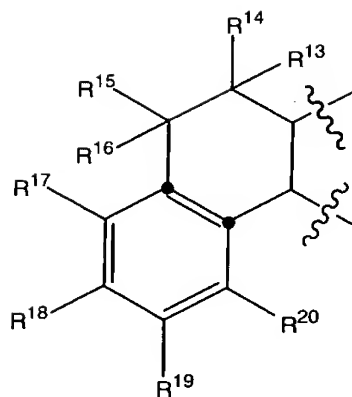
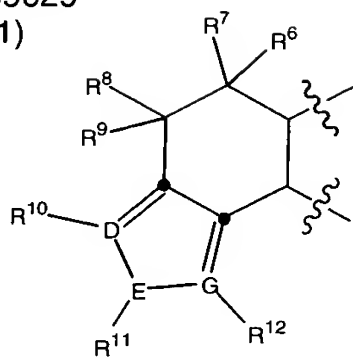
R⁴ is selected from the group consisting of -H, methyl, ethyl, propyl,
hydroxy, furyl, methylfuryl, methylimidazolyl, phenyl, hydroxyphenyl,
20 carboxyphenyl, pyrazolyl, hydroxy, dihydroxyphenyl, methoxyphenyl,

chlorophenyl, bromophenyl, fluorophenyl, dichlorophenyl,
dihydroxyborophenyl, thienyl, pyrrol, *N*-methylpyrrol, pyridyl, methylthio,
methylsulfonylphenyl, carboethoxyphenyl, methoxy,
carbamylphenyl, mercapto, *N*-isoimidazolylphenyl, isopropyl, amino,
5 hydroxynaphthyl, thiazoyl, carboxymethylphenyl, trifluoromethylphenyl,
methylphenyl, cyanophenyl, dimethylphenyl, fluorobenzhydryl,
methoxyfuryl, aminosulfonylphenyl,

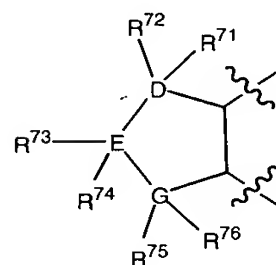
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15 wherein the R³ and R⁴ groups are such that they optionally join to
form a ring system selected from:



, and



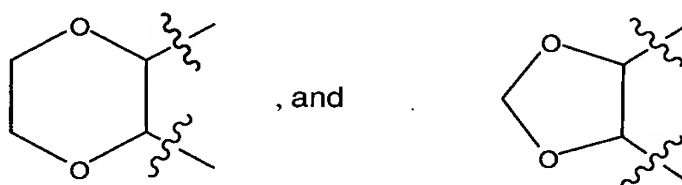
D, E and G are each independently selected from the group consisting of carbon, oxygen, sulfur, and nitrogen;

R⁵ is selected from the group consisting of -H, and C₁-C₅ alkyl; and

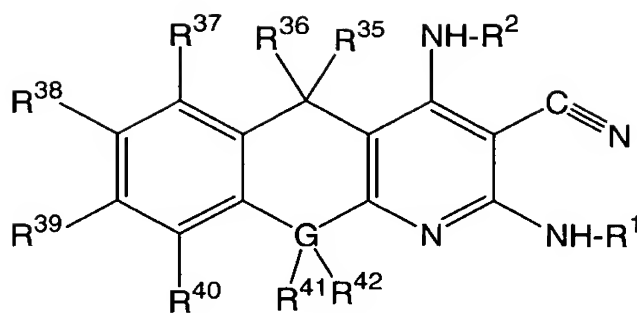
wherein the R¹ and R⁵ groups can join to form a pyridylidene ring;

5 R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹², R¹³, R¹⁴, R¹⁵, R¹⁶, R¹⁷, R¹⁸, R¹⁹, R²⁰,
R²¹, R²², R²³, R²⁴, R²⁵, R²⁶, R²⁷, R²⁸, R²⁹, R³⁰, R³¹, R³², R³³, R³⁴, R³⁵, R³⁶,
R³⁷, R³⁸, R³⁹, R⁴⁰, R⁴¹, R⁴², R⁴³, R⁴⁴, R⁴⁵, R⁴⁶, R⁴⁷, R⁴⁸, R⁴⁹, R⁵⁰, R⁵¹, R⁵²,
R⁵³, R⁵⁴, R⁵⁵, R⁵⁶, R⁵⁷, R⁵⁸, R⁵⁹, R⁶⁰, R⁶¹, R⁶², R⁶³, R⁶⁴, R⁶⁵, R⁶⁶, R⁶⁷, R⁶⁸,
R⁶⁹, R⁷⁰, R⁷¹, R⁷², R⁷³, R⁷⁴, R⁷⁵, and R⁷⁶ are each optionally present and
10 are each independently selected from the group consisting of - H, methyl,
ethyl, propyl, butyl, isobutyl, amino, nitro, hydroxy, methoxy, ethoxy,
propoxy, 2-propenoxy, oxo, carboxy, bromo, chloro, fluoro, trifluoromethyl,
chloromethyl, hydroxymethyl, dicyanomethyl, 2-fluorophenyl, 3-
fluorophenyl, hydroxyethoxy, ethoxyethoxy, -(CH₂)-O-(C₆H₄)-O-(CH₃),
15 carboxymethoxy, isopropylcarboxymethoxy, isobutylcarboxymethoxy,
methylamino, dimethylamino, aminoethoxy, diaminoethoxy,
dimethylaminoethoxy, cyanomethoxymethyl, 2-propenoxymethyl,
methoxymethyl, isopropoxymethyl, ethoxymethyl, -(CH₂)-O-(CF₂)-CHF₂,
isobutoxymethyl, benzoyl, phenyl, *N*-morpholinyl, morpholinylethoxy,
20 pyrrolidylethoxy, *N*-pyrrolidylethoxy, oxo, ethylcarboxy, carboxymethyl -
ethyl ester, pyridylmethyl, 4-pyridylmethoxy, 2-pyridylmethyl, and -COO-
CH₂-CH₃; and

wherein R³⁸ and R³⁹ are such that they optionally join to form a ring system of the type selected from:



20. The method according to claim 18, wherein the aminocyanopyridine MK-2 inhibiting compound is one having the structure:



wherein:

G is selected from the group consisting of - O -, - S -, and -N-;

when G is -O-, R⁴¹ and R⁴² are absent;

5 when G is -S-, R⁴¹ and R⁴² are optionally absent, or are oxo;

when G is -N-, R⁴¹ is absent, and R⁴² is -H or C₁-C₄-alkyl;

R¹ is selected from the group consisting of hydrogen, branched or
unbranched alkyl, alkenyl, alkynyl, alkoxy, alkylaryl, arylalkyl, carboxy,
carboxyalkyl, hydroxyalkyl, alkylcarboxy, aryl, amino, aminoalkyl,
10 alkylamino, halo, alkylaminoalkyl, alkoxy, alkoxyalkyl, monocyclyl, bicyclyl,
polycyclyl, and heterocyclyl;

R² is selected from the group consisting of hydrogen, alkyl, alkenyl,
alkynyl, alkoxy, hydroxyalkyl, alkylaryl, arylalkyl, alkoxyaryl, aminoalkyl,
alkylaminoalkyl, arylaminoalkyl, alkoxyalkyl, alkylcarboxy, and
15 carboxyalkyl;

R³⁵ is selected from the group consisting of hydrogen, dicyanoalkyl,
and substituted or unsubstituted heterocyclyl and cyclyl, where
substituents, if any, comprise halo moieties;

R³⁶ is selected from the group consisting of hydrogen, dicyanoalkyl,
20 and substituted or unsubstituted heterocyclyl and cyclyl, where
substituents, if any, comprise halo moieties;

R³⁷ is selected from the group consisting of hydrogen, alkoxy, halo,
alkyl, alkenyl, alkyl, arylalkyl, or alkylaryl;

R³⁸ is selected from the group consisting of hydrogen, hydroxy,
25 alkoxy, alkyl, alkenyl, alkynyl, amino, alkylamino, arylamino,

alkylaminoalkyl, carboxy, aminoalkoxy, halo, alkylcarboxyalkyl, alkylamino, aminoalkyl, nitro, aryl, arylalkyl, alkylaryl, or arylamino;

R^{39} is selected from the group consisting of hydrogen, hydroxy, alkoxy, alkenoxy, hydroxyalkoxy, alkoxyalkoxy, aminoalkoxy,
5 heterocyclalkyl, heterocyclalkoxy, carboxyalkoxy, alkylaminoalkoxy, and alkylcarboxyalkoxy;

where the R^{38} and R^{39} groups optionally join to form a six membered heterocyclic ring; and

R^{40} is selected from the group consisting of hydrogen, hydroxy, halo, nitro, amino, alkyl, alkoxy, heterocyclalkoxy, carboxyalkoxy,
10 pyrrolidylethoxy, carboxymethoxy, hydroxyalkoxy, aminoalkoxy, alkylcarboxy, alkylaminoalkyl, carboxy, and heterocyclalkyl.

21. The method according to claim 18, wherein the subject is a mammal.

15 22. The method according to claim 21, wherein the subject is a human.

23. The method according to claim 22, wherein the $TNF\alpha$ mediated disease or disorder is selected from the group consisting of: arthritis, rheumatoid arthritis, spondyloarthropathies, gouty arthritis,
20 osteoarthritis, systemic lupus erythematosus, juvenile arthritis, asthma, bronchitis, menstrual cramps, tendinitis, bursitis, connective tissue injuries or disorders, skin related conditions, psoriasis, eczema, burns, dermatitis, gastrointestinal conditions, inflammatory bowel disease, gastric ulcer, gastric varices, Crohn's disease, gastritis, irritable bowel syndrome,
25 ulcerative colitis, cancer, colorectal cancer, herpes simplex infections, HIV, pulmonary edema, kidney stones, minor injuries, wound healing, vaginitis, candidiasis, lumbar spondylanhrosis, lumbar spondylarthrosis, vascular diseases, migraine headaches, sinus headaches, tension headaches, dental pain, periarteritis nodosa, thyroiditis, aplastic anemia, Hodgkin's
30 disease, sclerodoma, rheumatic fever, type I diabetes, myasthenia gravis, multiple sclerosis, sarcoidosis, nephrotic syndrome, Behcet's syndrome, polymyositis, gingivitis, hypersensitivity, swelling occurring after injury,

myocardial ischemia, ophthalmic diseases, retinitis, retinopathies, conjunctivitis, uveitis, ocular photophobia, acute injury to the eye tissue, pulmonary inflammation, viral infections, cystic fibrosis, central nervous system disorders, cortical dementias, and Alzheimer's disease.

5 24. The method according to claim 18, wherein the subject is administered an effective amount of the aminocyanopyridine MK-2 inhibiting compound.

 25. The method according to claim 24, wherein the effective amount comprises an amount within a range of from about 0.1 mg/kg/day
10 to about 150 mg/kg/day.

 26. The method according to claim 25, wherein the effective amount comprises an amount within a range of from about 0.1 mg/kg/day to about 10 mg/kg/day.

 27. The method according to claim 18, wherein the
15 aminocyanopyridine MK-2 inhibiting compound provides a TNF α release IC₅₀ values of below 200 μ M in an *in vitro* cell assay.

 28. The method according to claim 18, wherein the aminocyanopyridine MK-2 inhibiting compound provides a TNF α release IC₅₀ values of below 1 μ M in an *in vitro* cell assay.

20 29. The method according to claim 18, wherein the aminocyanopyridine MK-2 inhibiting compound provides a degree of inhibition of TNF α in a rat LPS assay of at least about 25%.

 30. The method according to claim 18, wherein the aminocyanopyridine MK-2 inhibiting compound provides a degree of
25 inhibition of TNF α in a rat LPS assay of above 80%.

 31. The method according to claim 18, wherein the aminocyanopyridine MK-2 inhibiting compound provides an MK-2 inhibition IC₅₀ value of below 200 μ M.

30 32. The method according to claim 18, wherein the aminocyanopyridine MK-2 inhibiting compound provides an MK-2 inhibition IC₅₀ value of below 1 μ M.